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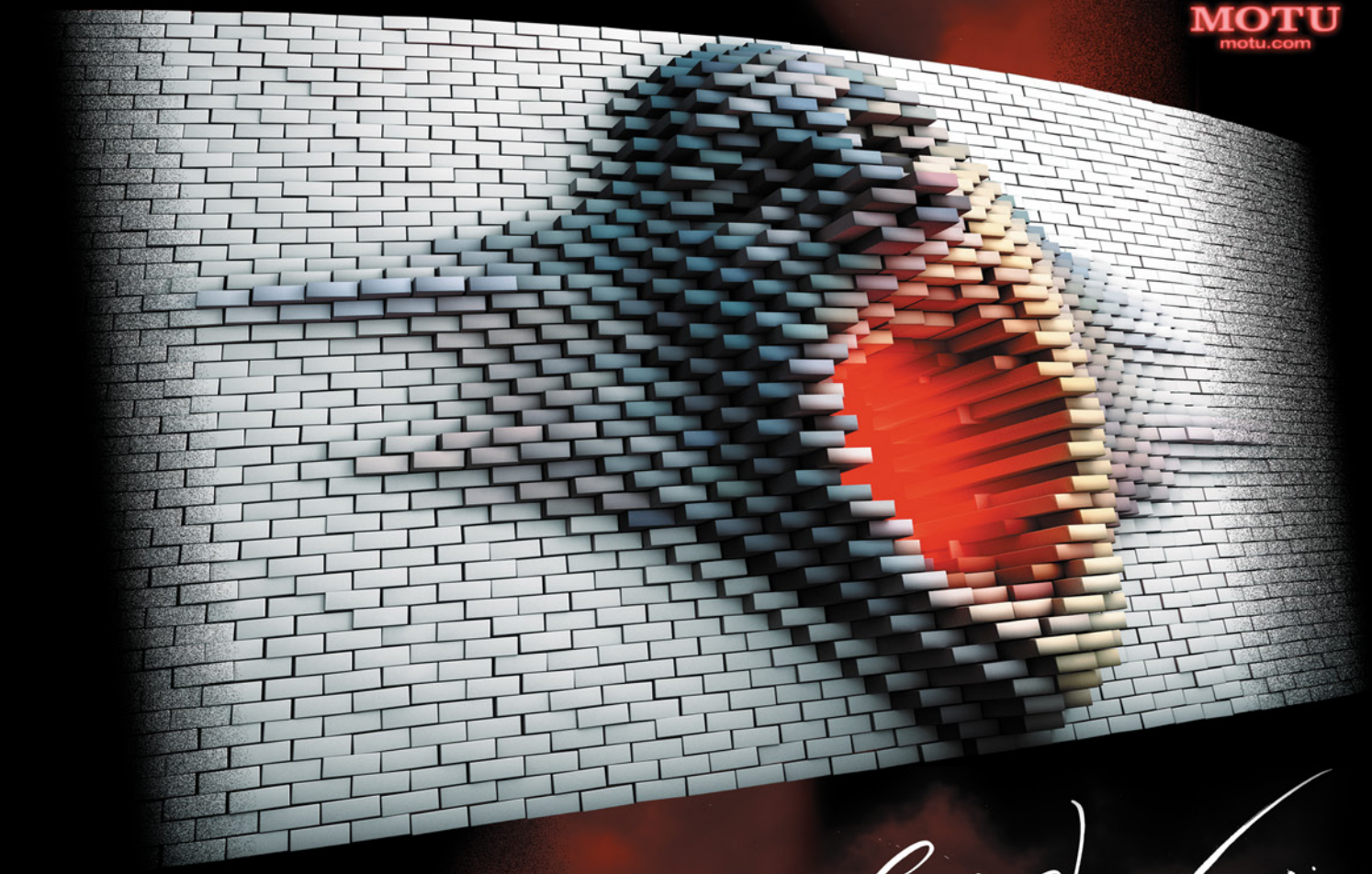

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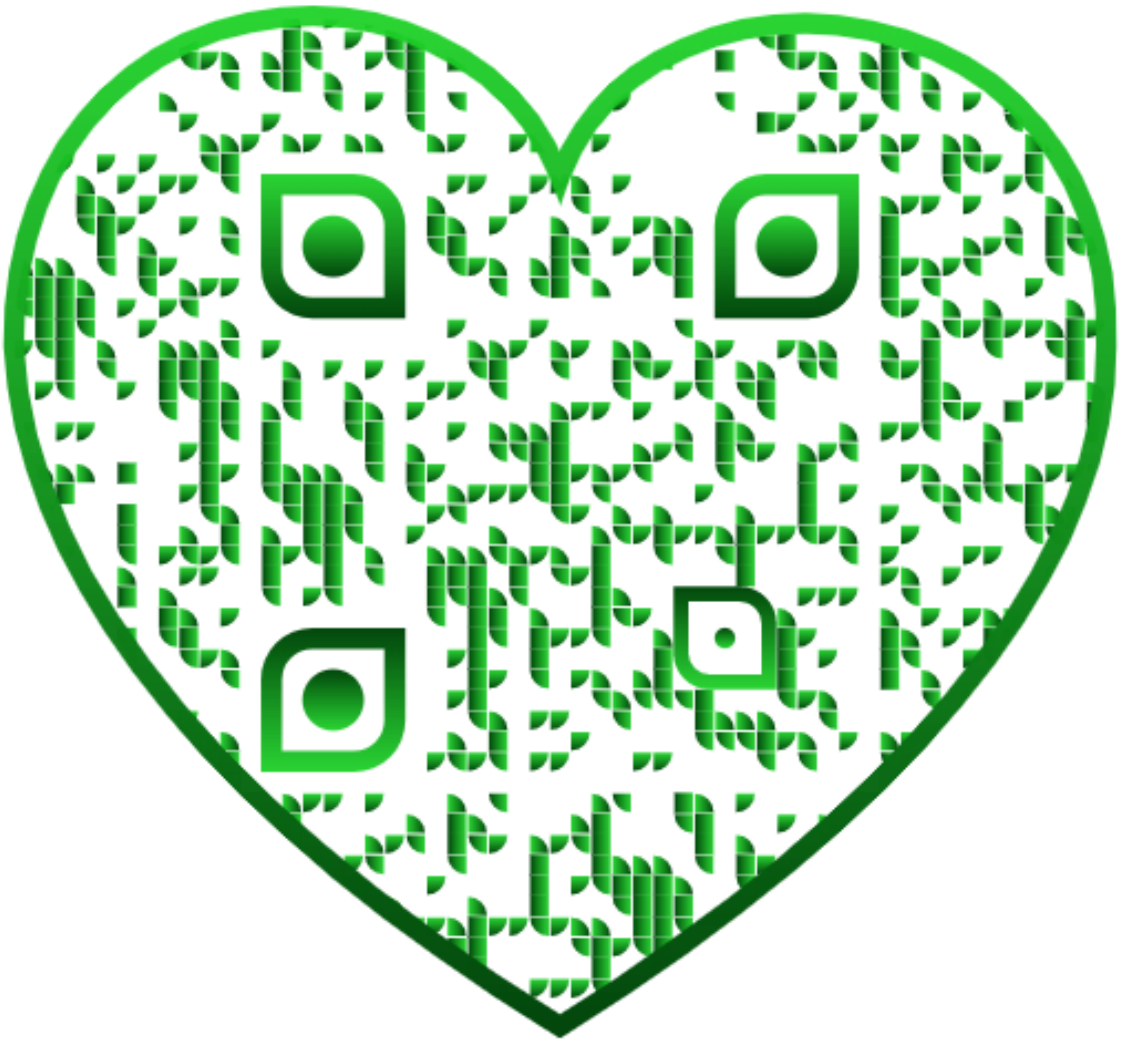

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5 WAYS TO PLAY LIKE LARRY YOUNG

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THE STATE OF HEAVY

6 BANDS THAT DEFINE KEYBOARDS IN HARD ROCK

- CHILDREN OF BODOM
- DEFTONES
- BLACK COUNTRY COMMUNION
- OZZY OSBOURNE
- CRASH KINGS
- RETURN TO EARTH

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Children of Bodom
by Jussi Hyttinen

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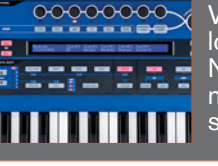

Video first look: Novation's new UltraNova synth.

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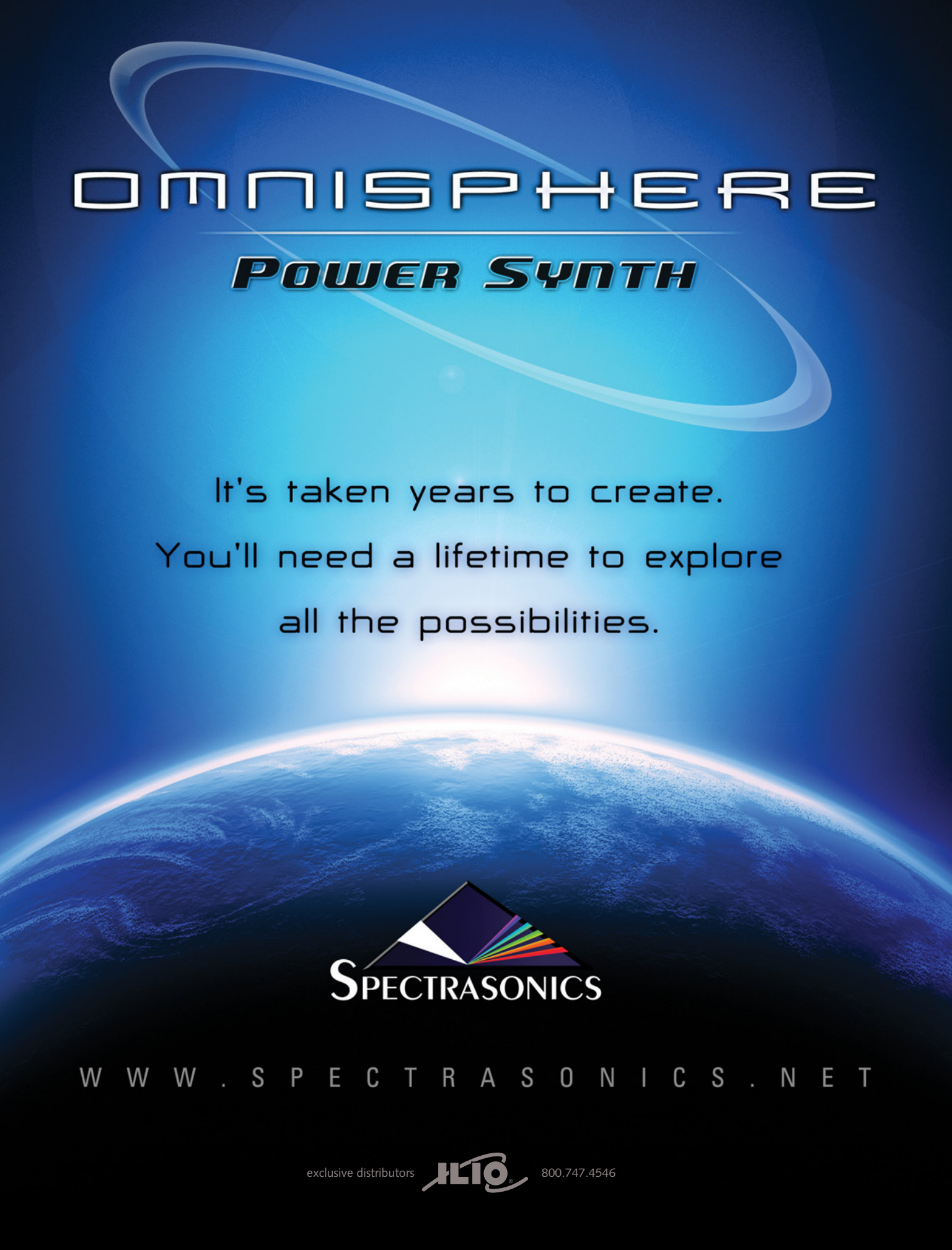
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From the Editor

I recall reading an Ozzy Osbourne interview in the early '80s in which the then-bane of middle school parents everywhere expressed ambivalence about the label "heavy metal." "I prefer to call it heavy *rock*," he said. "It doesn't f*** around." Neither do the artists we're privileged to profile in this issue. They represent the full range of what it is to be a keyboard player in today's heaviest bands, from outshredding an avalanche of guitars (Children of Bodom) to sounding *like* that avalanche using a Clavinet (Crash Kings) to recreating iconic synth parts on tour with Ozzy (Adam Wakeman). Even if you're not into metal, hard rock, or any music involving a distortion pedal, you'll be as impressed as I was by the diverse influences and skills they bring to bear on their gigs. On the other hand, if you like it loud but feel like keyboards have always been the underdog, you're about to be vindicated.

Stephen Fortner

DIG MY RIG!

My current rig solves the problem of playing keys in a band that plays 90% rock-guitar-only songs. This rig has helped me be our "rhythm guitarist" (electric and acoustic) when playing the likes of Led Zeppelin, Def Leppard, and Judas Priest. One example: On Zeppelin's "Hey Hey What Can I Do," the arpeggiator of my Korg M3 helps me play a killer mandolin, and I play an acoustic guitar on my Triton LE for the chorus. When not covering guitar parts, I need piano, organ, and synth. To fill out my guitar sounds on Scorpions and Metallica covers, I'll play two keyboards with different guitar patches and slightly different effects, in unison but one octave apart. By alternating playing the same notes with my hands, I produce a kind of strumming/chunking that sounds cool when our guitar player solos over it. For "dueling guitar" moments with the guitarist, I use a Roland V-Synth because there are so many ways to change the expression of its sounds. Joe Cresanti

Check out Joe's band at reverbnation.com/goodforyou.

The Poll

What keyboard brand has improved the most over the past decade?

Yamaha 25%
Roland 13%
Korg 17%
Kurzweil 7%
Casio 15%
Hammond 7%
Nord 14%
Other 2%

Be counted!
New polls go live the first and third Tuesdays of each month at keyboardmag.com.

Facebook COURT OF OPINION

***Keyboard* asked:** If you had to gig with just two keyboards for the foreseeable future, what would they be?

Rick Horio
Yamaha CP1 and Motif XF7.

Dallas Kruse
Yamaha Motif XF and Hammond B-3.

Tim Krahmer
Easy call: Korg M3 and Yamaha Motif XS7.

Sigfus Arnthorsson
Some Kurzweil at the bottom and some Roland on top!

Gregory Butler
Casio CZ-101 and a QWERTY . . .

Michael Wheeler
Motif XF7 on bottom, Nord Electro 3 on top.

Rully Madewa
Top: Roland Fantom G7. Bottom: Yamaha Motif XF8.

Sergio Castaño
Nord Electro 3 with Yamaha CP1 at bottom.

Jim Alfredson
Hammond XK-3C and Yamaha Motif XF8 on the bottom.

Scott Berry
OASYS and . . . OASYS!

SOAPBOX

***Keyboard* asked:** In the '80s, keyboardists were happy to pay $5,000 for unstable instruments with limited sonic range. Today, we complain that hardware synths can't keep up with even a midrange laptop. **Have we become spoiled?**

First, we have too many product options competing for our dollar in a declining economy. In the '80s, we had more money, more believable hype (even if a product was crap), and less access to reputable product research–in short, we had *Keyboard* magazine, but that was about it. Today, we have a million opinions on the Internet. Secondly, most manufacturers don't let their products mature. How long did the Minimoog stay on the market, or the Rhodes? Now, a product's lifespan is no more than three or four years, tops. Lastly, I realize sound quality is subjective, but we should be much farther along than we are. For example, Kurzweil does a marvelous job, but their guitars and brass still sound less than adequate, making you go out and lay down another pile of cash to get the sounds you should've gotten in the first place. *All* keyboard manufacturers are guilty of this, and there's simply no excuse for it. Roger Dale Huff, via Facebook

the PACKRAT™

NICK Z. MARINO

Shredding with Yngwie Malmsteen

Keeping pace with one of the fastest guitar players alive is no task for the faint of heart or slow of hand. Luckily, Nick Z. Marino stepped into the gig formerly and famously held by Jens Johansson with ample chops. Now, his solo career takes off with his latest record *Freedom Has No Price*, distributed by Malmsteen's Rising Force Records. "I've always loved Yngwie's music and admire him as a guitar virtuoso," says Marino. "It was a great honor to join him as keyboardist. You can definitely hear some of his influences on my album, but if you listen to the whole record, you'll hear my unique way of composing. My singing and playing differs a lot, too." Nick's album outshreds just about anything released this year and establishes him as a rising force in his own right.

Define "shredding" on keyboards in heavy rock.
Playing extremely fast with extreme precision, deep feeling, and a superb sound that gives you a sense of flying!

How do you use keyboards differently than most bands that have a keyboardist?
When it comes to a solo part, I think more like a solo guitar player. I try to get out of the box with unusual scales and modulated sounds.

What was the first thing that you heard that made you see keyboards as a legitimate in a heavy rock context?
Jon Lord of Deep Purple. The way he used a distorted organ sound with high energy and incredible speed—it changed the stereotype of a keyboard player. Other incredible inspirations were Jan Hammer with his out-of-this-world Moog solos, plus Keith Emerson and Rick Wakeman. I also have to mention Jordan Rudess and Derek Sherinian.

What material should people practice if they want to play like you?
For speed and technique, classical music and scales. To get into a heavy rock vibe, play along with all songs that burn a fire in you, even if there are no keyboards in them.

What's in your rig?
A Korg Trinity perched above a Triton, Yamaha pianos, and MIDI controllers with Apple Logic virtual instruments. I'm using all of the Korgs' assignable knobs, as well as their ribbon controllers, for effects and dynamics. The tone is as important as the performance.

What are some of Yngwie's more keyboard-heavy songs and how do you handle the patch changes?
In "Trilogy," I use a self-programmed harpsichord sound mixed with string pads on the [Trinity]. On the Triton is a fat choir sound mixed with a low-volume church organ. The big fat string sound in "Adagio" quickly has to be replaced with church organ when we go into "Far Beyond the Sun" right afterwards. The patch on the Trinity has to be switched to the solo synth sound during the song for the solo part. In "I Am a Viking" and "Black Star," I'm using a special distorted guitar sound where I play harmony on the lead melody line along with Yngwie.

How much musical freedom does Yngwie give you?
My relationship with Yngwie is great. He's like an older brother you always listen to and respect. He has a great sense of humor and every rehearsal or studio session starts with laughter and jokes. Musically, I have absolute freedom for my solos and improvisation. Certain parts have to be played like the record, though. Robbie Gennet

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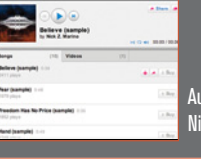
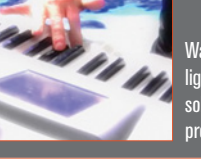


Audio clips from Nick's solo album.



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THE EDITORS' PLAYLIST

Robbie Gennet

STYX
Regeneration, Vol. 1
Though Styx has lost some of its original members, their body of work holds up over time. The current lineup, featuring original guitarists Tommy Shaw and James "J.Y." Young, cut this EP covering some of their best-known hits, fronted by Lawrence Gowan on vocals and keys. The spot-on synth and organ intro to "Fooling Yourself (Angry Young Man)" is worth the price of admission all by its lonesome, but all the songs will inspire you to recreate your favorite Styx keyboard sounds and parts. That's because Gowan had to do the very same thing himself.

Since the original master tapes couldn't be found, every sound and effect—including the monster synth dive at the end of the "Come Sail Away" solo—had to be rebuilt from scratch. "I tried to stay as faithful to the original analogue sounds as possible," says Gowan. "Although my live rig has every sound I needed for the record, I started from scratch on each sound with vintage gear." Gowan primarily used an Oberheim OB-8 he found in L.A. to replace the analog synths he'd let go of in the '80s. "Most of the synth sounds are the product of that glorious love-hate affair I have with my old Oberheims," he says. A seven-foot Steinway and a Hammond C-3 rounded out the studio rig. The one digital patch that made it through the analog gauntlet was a Solina string sound from his Roland XV-5080. He also used a Logic EXS24 sample for a string sound that was used sparingly at the end of "Crystal Ball," but that was it for the digital realm. To learn more, and catch the band on tour near you, visit styxworld.com.

RHETT FRAZIER INC
Escape from Dee-Troyt
Straight out of the box, Frazier starts the party with "U Can't Stop," priming the dance floor around a memorable hook. He then throws down some deeply funky vocals over the Wurly-laced "Nuthin" and unleashes a Prince-worthy falsetto on "U Can't Stop." Synth wiz Donny Gruendler's keyboard flavors range from smooth synth pads on "Mirrors" to the vibey piano on the ballad "Faultline." The music harkens as much to Ted Nugent's Motor City Madman rock as it does to Motown soul, and the amalgam really works. (rhettfrazierinc.com)

Michael Gallant

BLEEDING THROUGH
Bleeding Through
Thanks in no small part to the tasteful contributions of keyboardist Marta, Bleeding Through's latest album maintains a feverish level of symphonic metal grandeur, yet never spills over into self-parody. Bellowing vocals and raging guitar work lay the foundation in "Anti-Hero," for example, while Marta's Chopin-esque piano adds a welcome touch of ice to that musical fire. By contrast, "Divide the Armies" shows Marta's heavy synth work amping up the track's palpable burn-down-the-world fury. (Rise Records, bleedingthrough.com)

NIKKI & RICH
Everything
A little bit Outkast, Spearhead, Destiny's Child, and classic Supremes, Nikki and Rich's neo-oldies groove over strong, catchy beats and percussive, dance-hall piano. Nikki Leonti's powerful lead vocals bring to mind Alicia Keys and Duffy, while Rich Skillz's lush production powers the album, full of bouncy retro energy. Wistful piano figures on "Everything" and "Take the Lead" are highlights, as is the surprisingly tasteful use of synth strings and horns throughout. (Reprise, warnerbrosrecords.com)

Jon Regen

ALEX BROWN
Paquito D'Rivera Presents Alex Brown, Pianist
This album is a veritable master class in the art of modern jazz piano. From the scintillating first track "Prologue," which pits Brown against the nimble marimba of Warren Wolf, to the angular intro chording on "Elektric," (his recorded tribute to Chick Corea), Brown unleashes a torrent of musical tenacity across this impressive disc. He's a young piano lion poised for great things. (Sunnyside, alexbrownmusic.com)

NORAH JONES
. . . Featuring
Norah Jones has staked a genre-crossing claim across the musical pantheon since she hit the ground running in 2002. . . . *Featuring*, a decade-spanning compilation disc of some of her most storied duets, further showcases her uncanny ability to leap wide stylistic chasms with a single syllable. Who else besides Jones could convincingly combine tracks with Ryan Adams, Ray Charles, and Herbie Hancock? A musical ride worth taking. (Blue Note, norahjones.com)

DANILO PEREZ
Providencia
Danilo Perez's latest is a mutating collage that melds classical, Latin, and jazz sonorities across the 11 tracks. Standouts include the opener "Daniela's Chronicles," where Perez fearlessly merges ostinato bass lines, baroque piano textures, and steel drums, and the title track's transcription-worthy solo piano intro. Few artists dare to go where Perez goes time and time again. He's a keyboard giant that continues to impress. (Mack Avenue, daniloperez.com)

What's on your playlist? What should be on ours? Let us know by email or Twitter, or at forums.musicplayer.com.

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MAJORminor

Nick Katz

Seventeen year-old Nick Katz must have a genetic predisposition for a career in music. His father, Zev, is an acclaimed bassist for artists such as Roseanne Cash and Hall & Oates. A senior at New York's famed LaGuardia High School, Nick has been playing bass and keyboards since age four. He plans on attending music school for classical composition and film scoring.

First memory of hearing keyboards and being intrigued: I've always loved '50s rock 'n' roll and New Orleans-style piano. Keyboards have taken on an increasing role in my musical life since I started composing.

Musical heroes: The Rolling Stones, the Band, Bob Dylan, Elvis Costello, Little Feat, Dmitri Shostakovich, Sergei Prokofiev, and Bernard Herrmann.

Worst gig nightmare? I once had to perform with severe food poisoning. Fortunately, by the time we actually got onstage, most of the reaction had subsided. I still felt like crap, though!

How important is traditional music training? I think that it's an essential part of becoming a well-rounded musician. Understanding the academic side of music allows you to make sense of your own musical instincts.

Favorite keyboard equipment: I love the Native Instruments soft synth Massive. It lets you build sounds from scratch and polish them in minute detail, and also has a fantastic template bank from which to choose. I work at Euphoria Productions in New York City, and they have a Nord Electro 3, which is one of my favorites. I'm partial to Wurly and Rhodes sounds, and the Electro mimics them perfectly.

Role recording technology plays in your music: I use Sibelius, Pro Tools and Ableton Live regularly. I use an Edirol PC-300 with Ableton to sequence MIDI tracks, and I use an Avid Mbox to record into Pro Tools. Jon Regen

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by Stephen Fortner

KORG MICROKEY

Concept: Backpack-friendly MIDI controller with keys like on Korg's MicroKorg XL and MicroStation synths.
Big deal: Velocity-sensitive. Pitch and mod wheels. USB-powered.
Included soft synths: Licenses to download Korg M1-Le, Toontrack EZdrummer Lite, Applied Acoustics Lounge Lizard Session, plus a discount coupon for Ableton Live.
We think: Korg NanoKey too small? Full-size keys too big? This'll feel just right.
Price $TBD | korg.com/microkey

M-AUDIO GSR FAMILY

Concept: M-Audio gets in the powered stage monitor game with cabinets suitable for amping keyboards.
Big deal: All have efficient Class-D amps that minimize weight and heat. GSR10 drives a 10" woofer and 1" dome tweeter with 250W total; GSR12 ups that to a 12" woofer, 1.3" tweeter, and 300W. GSR18 is an 18" subwoofer powered by 500W.
We think: Here's one for our upcoming amp roundup—if companies would stop coming out with cool new stuff, we might get it done!
GSR10 list: $499 | GSR12 list: $629 | GSR18 list: $999 | Street prices TBD | m-audio.com

DANGEROUS MUSIC BAX EQ

Concept: High-end mastering EQ from the folks who revolutionized summing and monitor control for the DAW world.
Big deal: Recreates the hi-fi curves developed in the '50s by engineer P. J. Baxandall. Stereo high and low bands with selectable shelf frequencies plus adjustable high- and low-cut filters.
We think: If it's as good as the rest of their stuff, it'll find its way into mastering rooms and serious project studios alike.
List: $2,529 | Approx. street: $2,200 | dangerousmusic.com

SONIVOX VOCALIZER

Concept: Vocoder meets soft synth.
Big deal: In addition to classic robot-voice effects, it can impart vocal- or synth-like characteristics to any audio input. Onboard waveshaping, filter with tempo-synced modulation, delay, chorus, and four-band EQ.
We think: Both the audio quality and diversity of sounds are impressive. This could be a real winner for Sonivox.
List: $149.99 | Approx. street: $99 | sonivoxmi.com

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NATIVE INSTRUMENTS REAKTOR PRISM

Concept: "Modal" synth utilizing modeling and additive techniques to create unique sounds. These skew towards, but aren't limited to, metallic and digital textures.

How it works: An "exciter" acts as oscillator, feeding impulses or continuous tones through a "modal bank" of tuned bandpass filters.

Big deal: The killer app here is that it can run with or without the full Reaktor package, thanks to the new Reaktor Player. This bodes well for future NI releases.

Direct: $79 | native-instruments.com

EASTWEST THE DARK SIDE

Concept: Heavy, eerie, processed, aggressive, and disturbing sounds for everything from electronica to goth rock to film scoring.

Big deal: 40GB library of sounds in nearly every instrument category. Co-produced by Doug Rogers and David Fridmann (MGMT, the Flaming Lips, Weezer).

We think: Fridmann's involvement suggests that this is not your father's gigantic sample library.

List: $395 | Street: $TBD | soundsonline.com

MACKIE AT PLASA

Here are our favorite two products from Mackie's strong showing at the Professional Lighting and Sound Association show in the U.K. For more info on this show, visit plasa.org.

BLACKBIRD and BLACKJACK INTERFACES

Newest in the Onyx line of audio interfaces, the USB Blackjack (top) packs a pair of high-end Onyx mic pres on XLR inputs, hi-Z guitar inputs, and separate volume controls for headphones and studio monitors. The FireWire Blackbird (bottom) has eight Onyx pres, eight-channel lightpipe I/O, and a zero-latency DSP mixer for routing any input to any output.

Blackjack list: $259.99 | Approx. street: $200 |
Blackbird list $629.99 | Approx. street: $500 |

2404-VLZ3 and 3204-VLZ3 MIXERS

The 1604-VLZ3 is a staple of small nightclub systems and large keyboard rigs alike. Mackie crams everything we like about it into a larger 24- or 32-channel format, and adds twin 32-bit effects processors, integrated compression on the four subgroups plus four input channels, and four-track computer recording over USB.

2404-VLZ3 list: $1,429.99 | Approx. street: $1,200 |
3204-VLZ3 list: $1,699.99 | Approx. street: $1,400 | mackie.com

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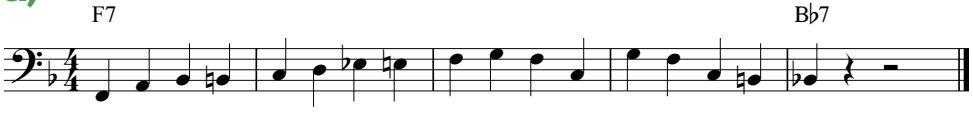
Joe Bagg
5 Ways to Play Like
LARRY YOUNG

Joe Bagg is a renowned pianist, organist, and educator from Los Angeles. He has performed with Bobby Hutcherson, Larry Coryell, and Madeleine Peyroux, and his latest recording *The Joe Bagg Organ Trio* will be released in late 2010. Bagg teaches at Citrus College and Fullerton College. Learn more at joebagg.com. Jon Regen

Organist Larry Young carved out a truly unique path on the holy Hammond B-3 organ. His modal, John Coltrane-esque approach was a total departure from the soul and jazz organ styles that had dominated the airwaves of the ’60s and ’70s. Young’s playing (and subsequent recordings with legendary drummer Elvin Jones) influenced countless organists, including Larry Goldings, Sam Yahel, and myself. Though Young died in 1978 at the young age of 37, his solo work—as well as his work with artists such as Miles Davis, Tony Williams, and even Jimi Hendrix—continues to inspire players around the globe. Here are five ways to make your playing Young-er!

1. Bass Lines

Ex. 1a illustrates a typical Larry Young organ bass line over the first four measures of a blues in *F*. Set your organ or clonewheel’s drawbars to 83 8000 000 on the lower manual. Young would often reinforce his groove with drummer Elvin Jones by alternating between the root and fifth of the harmony in his bass lines, as seen in example **Ex. 1b**. You can hear this on the song “Zoltan” from Young’s classic Blue Note album *Unity*. The simplicity of this type of bass line helped offset the syncopated rhythms Young would sometimes play with his right hand, as in **Ex. 1c.** Use drawbar setting 80 8000 006 for the upper manual.

a)

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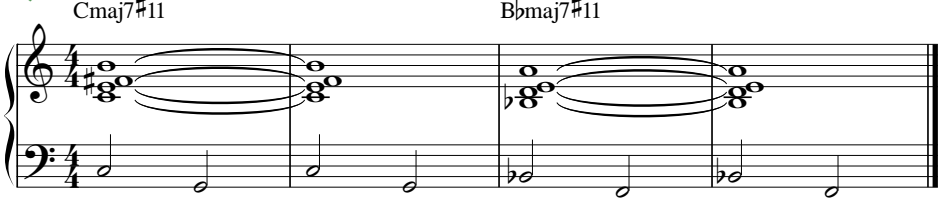

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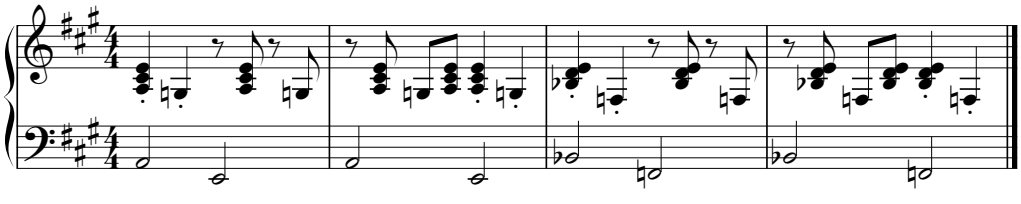
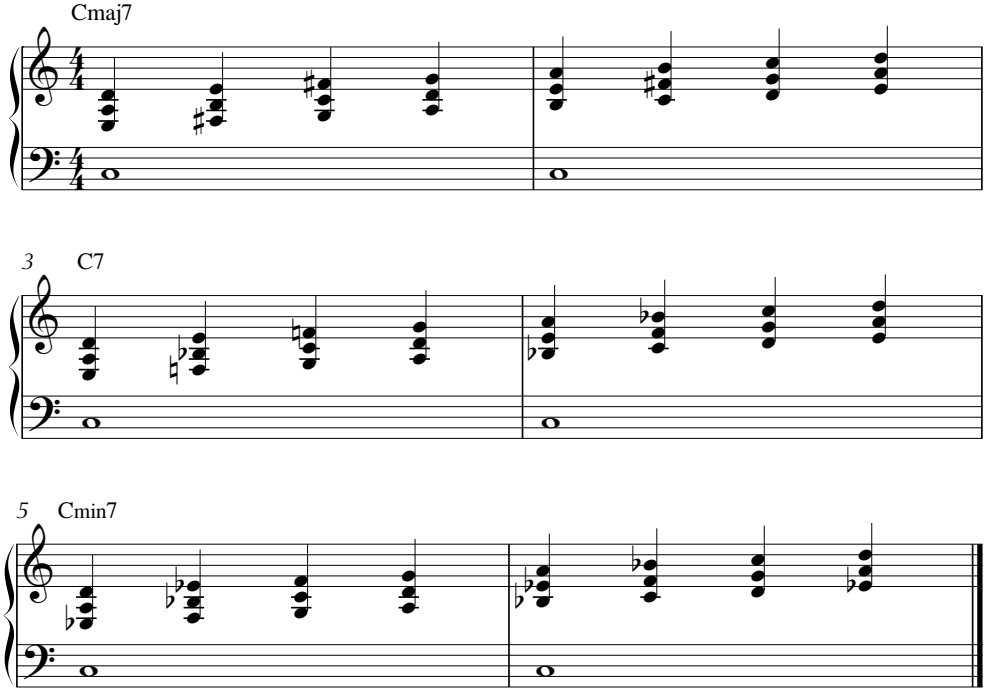
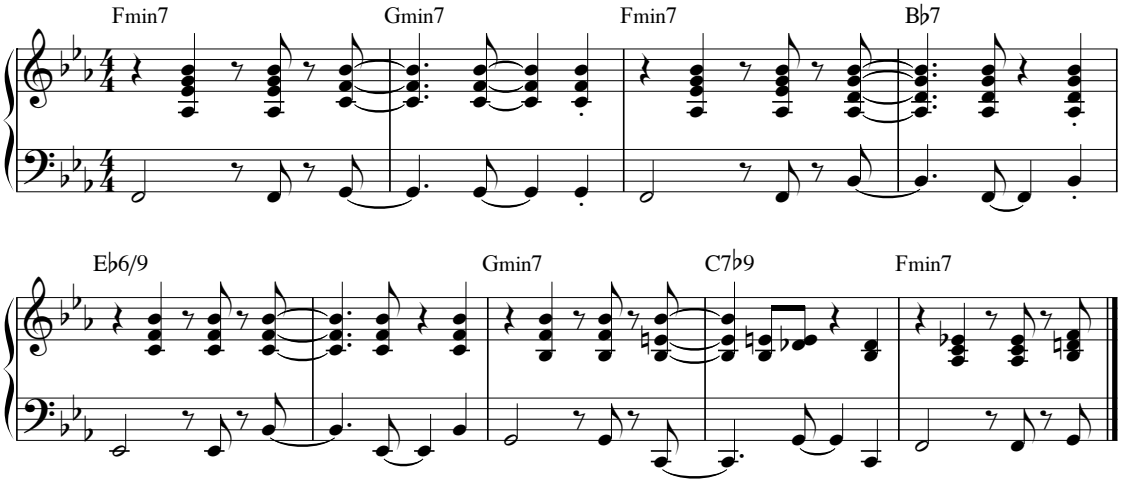

2. Fourth Voicings

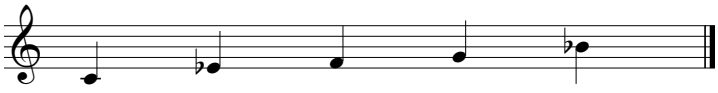
Larry Young pioneered the use of fourth voicings on the organ. McCoy Tyner had famously developed them on piano, but Young was the first organist to make them a staple on the Hammond B-3 organ. **Ex. 2** demonstrates how to integrate these voicings with three common chord types: major seventh (using the Lydian mode), dominant seventh (using the Mixolydian mode), and minor seventh (using the Dorian mode). Use drawbar settings 84 800 0000 for the lower manual and 88 8000 000 for the upper. Add third harmonic percussion and vibrato/chorus at Young's preferred setting of C1.

3. Comping

Ex. 3 shows how to use Young-type voicings in the context of a chord progression. Some of these voicings have an added note on top. Young often did this in his right hand to fatten up his sound, since his left hand was usually busy walking a bass line. Play both right and left hand parts on the lower manual using drawbar setting 83 800 0000. Once again, set vibrato/chorus to C1.



4. Solo Lines

Another technique that Young adapted from McCoy Tyner and John Coltrane was the use of pentatonic scales in improvisation. **Ex. 4a** shows a *C* minor pentatonic scale, which one might use over a *Cmin7* chord. If you break up the pentatonic scales by playing the pattern in **Ex. 4b**, you end up with a melodic line of perfect fourths. **Ex. 4c** is a solo line over a *Cmin7* chord. Use the same drawbar settings as in Ex. 2.

a)

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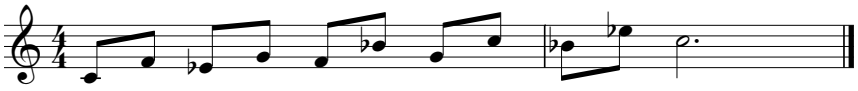
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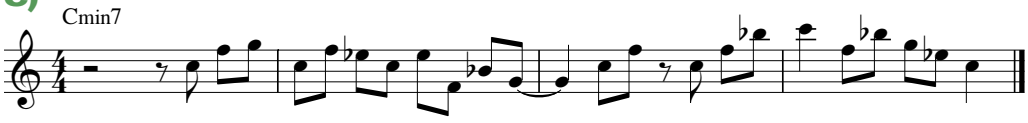
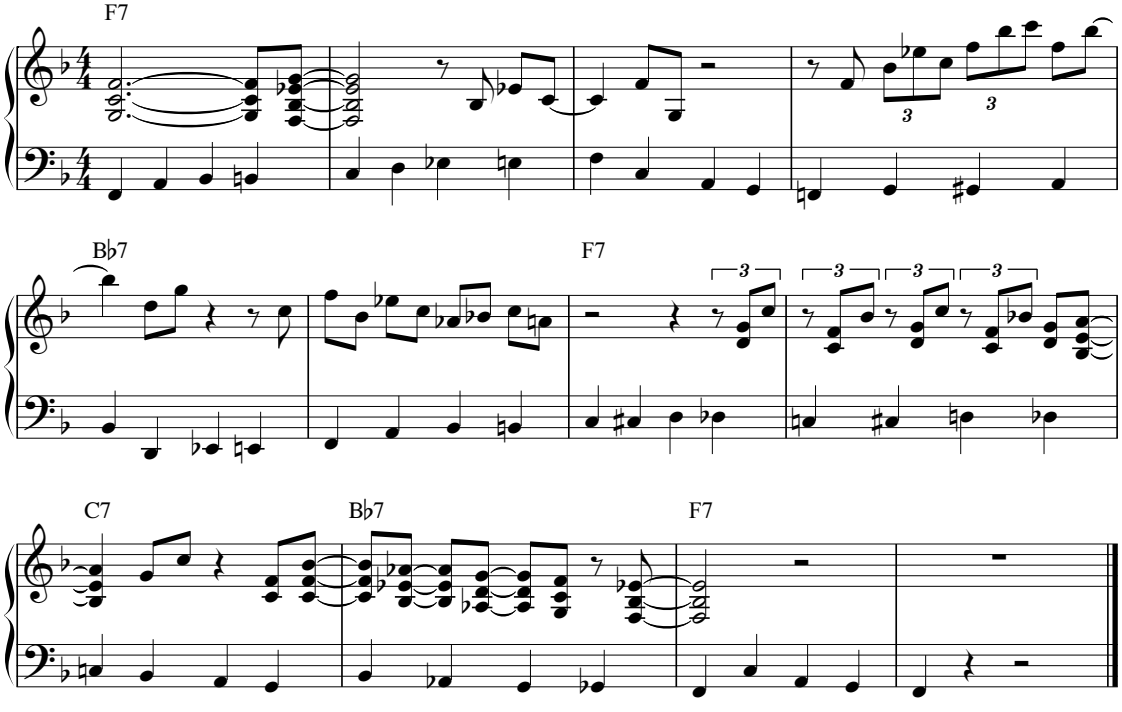

5. Putting it Together

Ex. 5 is an example of how to integrate all these elements over a blues in *F*. Notice how in measures 8 through 10, the fourth voicings are broken up for use as a melodic line. This is one of Young's trademark tricks.

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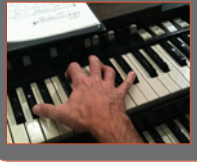

Audio examples recorded by the author.

Videos: Joe Bagg performing with jazz guitar icon Larry Coryell.

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Sarah Jane Cion won first place in the 17th annual Great American Jazz Piano Competition. She has appeared on Marian McPartland's NPR series *Piano Jazz*, and performed with Clark Terry and Etta Jones. Her instructional book *Modern Jazz Piano* is out now through Hal Leonard. Find out more at sarahjanecion.com. Jon Regen

Sarah Jane Cion

ON UPPER STRUCTURE TRIADS

Upper structure triads are everywhere in modern music, from pop and classical to the jazz stylings of Herbie Hancock and McCoy Tyner. Using these harmonic building blocks can make your playing more hip and progressive. You simply stack different triads on top of seventh chords.

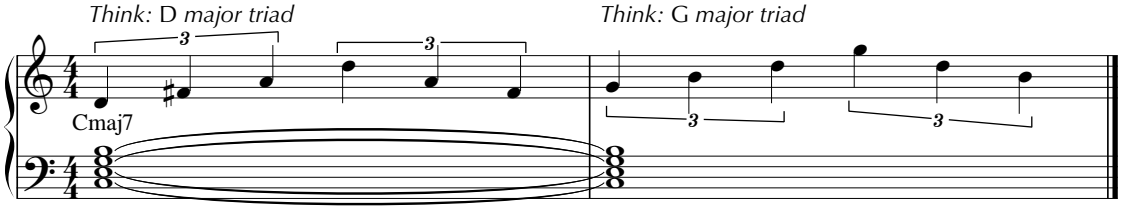
Ex. 1. Two triads that sound great **over major seventh chords** are those built on scale degrees II and V of the key of the base chord. We have a *C* major seventh in the left hand as our I chord, so let's build a *D* major triad on degree II and a *G* major triad on degree V. The *D* major sounds great over the I chord because it *includes* chord tones from the *C* major scale, as well as one "tension" tone: the raised fourth or sharp 11th (*F*♯). The *G* major sounds great over the I chord as well, as it adds the color tone of the ninth (*D*).

Ex. 2. Two triads that work well **over minor seventh chords** are those built on scale degrees IV and VII of the key of the base chord. Here, we have a *C* minor seventh in the left hand, so let's build an *F* major triad on the IV and a *B*♭ major triad on the flat VII. The *F* major triad adds the color tones of the 11th (*F*) and the 13th (*A*). The *B*♭ major triad adds the impressionistic colors of the ninth (*D*) and 11th (*F*).

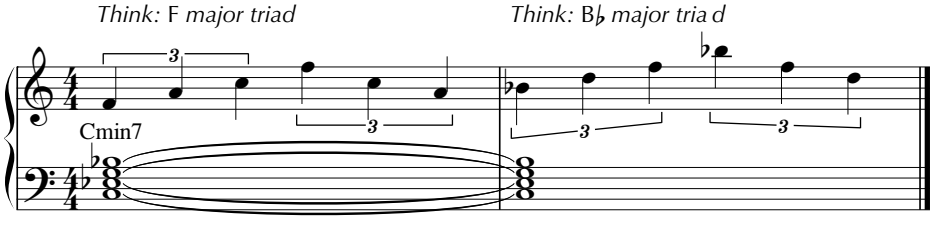
Ex. 3. There are a number of tension or color tones that sound great **on dominant seventh chords**. Here, we build triads on scale degrees II, flat III, sharp IV, flat VI, and natural VI. So over a *C* dominant seventh chord in the left hand, we arpeggiate the following major triads in the right: *D*, *E*♭, *F*♯, *A*♭, and *A* natural. The *D* triad contains the ninth (*D*), sharp 11th (*F*♯), and 13th (*A*) color tones. The *E*♭ triad contains the sharp ninth (*E*♭). The *F*♯ triad contains the sharp 11th (*F*♯) and flat ninth (*C*♯). The *A*♭ triad contains the flat 13th (*A*♭) and sharp ninth (*E*♭). Finally, the *A* natural triad contains the 13th (*A*) and flat ninth (*D*♭).

Ex. 4. "Waltz for UPS," demonstrates how you can use these sounds to create interesting lines and harmonies of your own. You'll be surprised at what a difference a triad makes!

Ex. 1.



Ex. 2.



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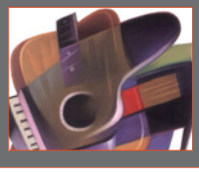
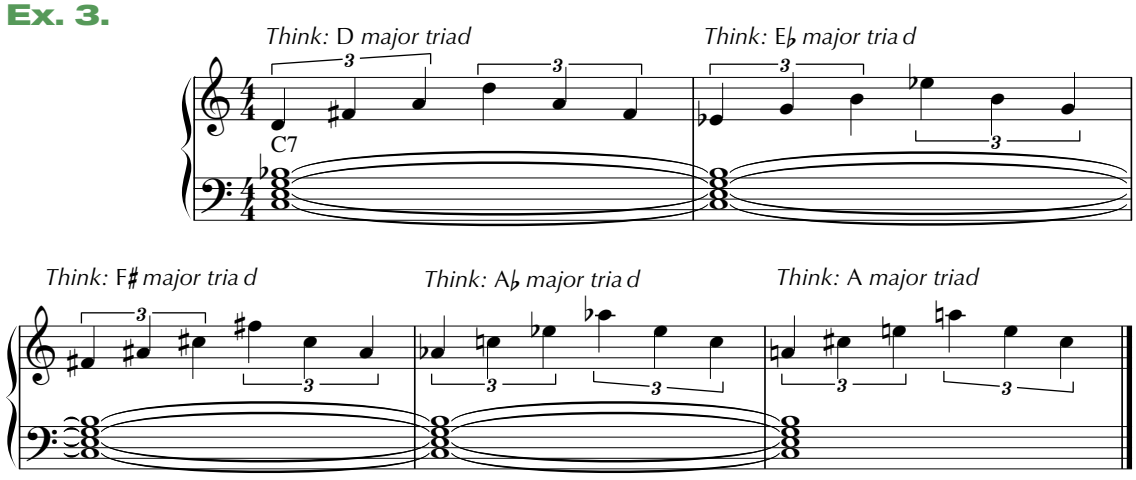
Sarah Jane plays audio examples for you.



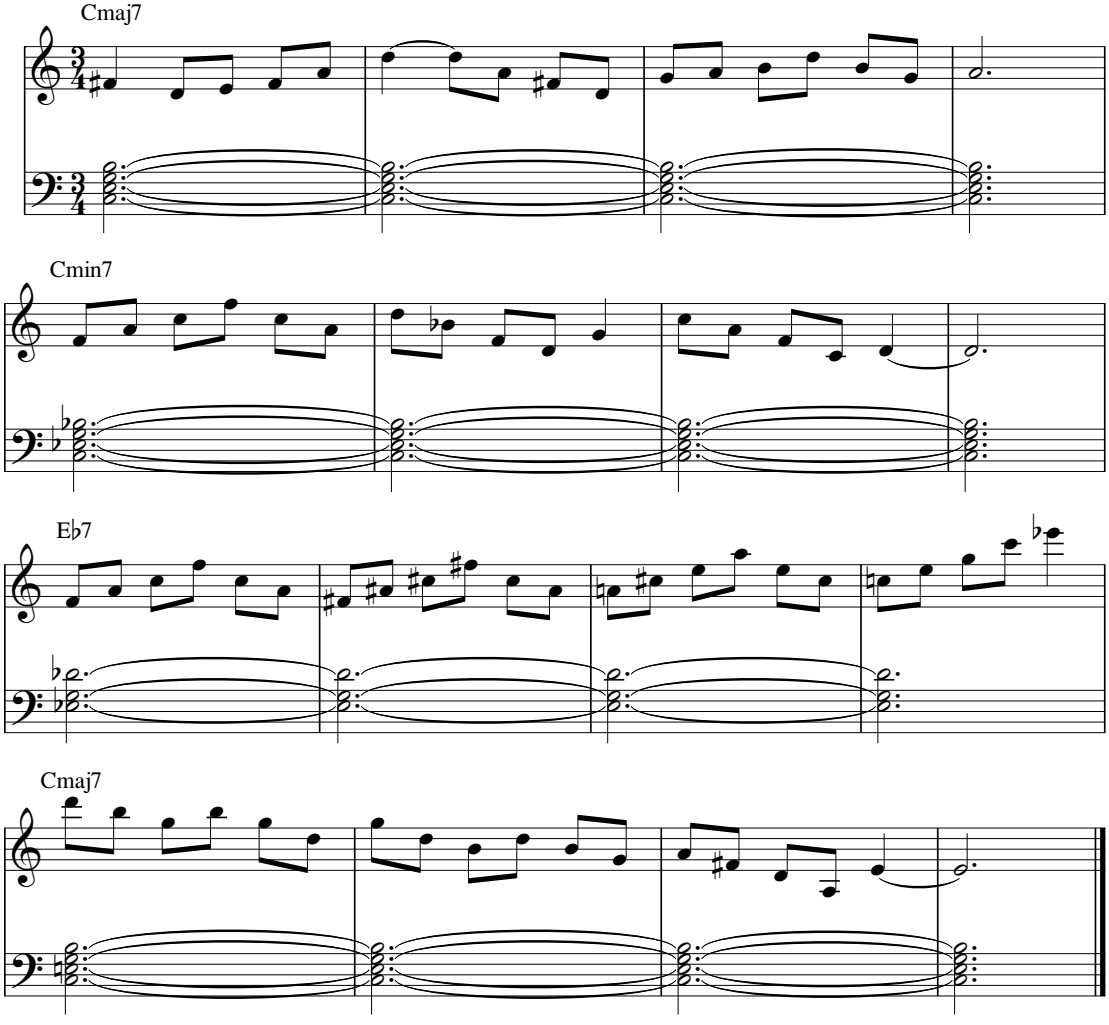
More on Cion's book *Modern Jazz Piano.*

Ex. 3.



Ex. 4.

Swing 8th note feel

Waltz for UPS

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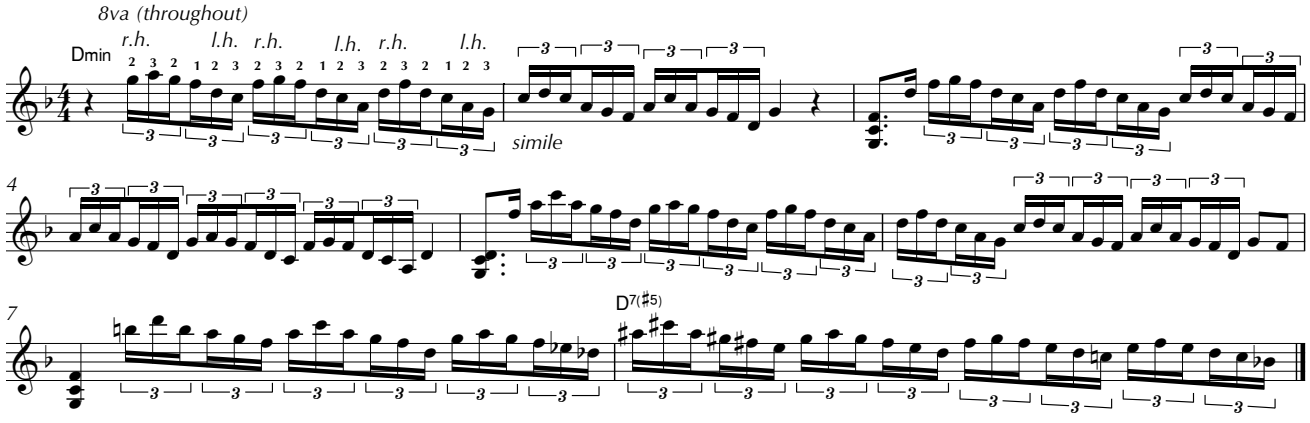
Joseph Wooten's
RHYTHMIC FUNK WORKOUT

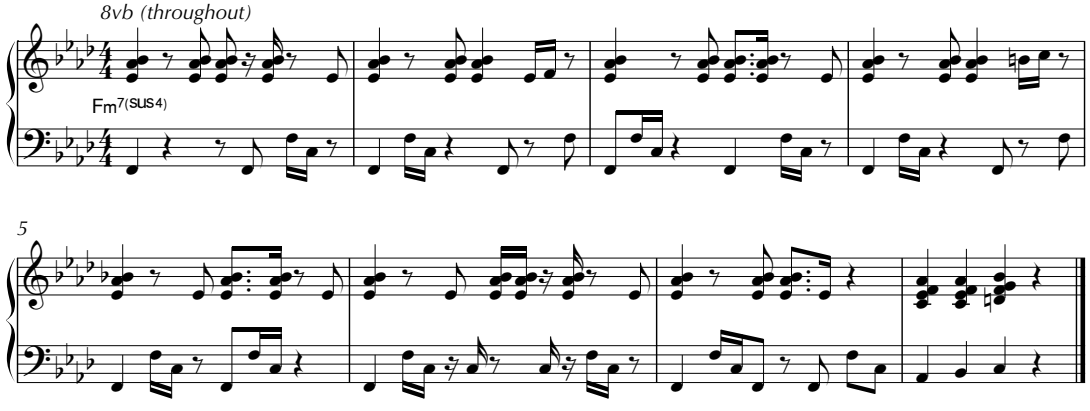
Whether I'm playing keyboards with the Steve Miller Band, stretching out with the Victor Wooten Band, or laying down my own brand of funk, soul, and rock with my band the Hands of Soul, my playing is all about rhythm. From funky leads to gospel voicings, the common denominator has always been groove. Here are some ideas from my playing that will add fire to your funk.

Ex. 1. Sixteenth-Note Triplets

This is the first eight bars of a solo similar to what I've played on various live performances of my brother Victor's tune "Cambo." It uses a quick triplet pattern that's become a trademark of mine. I play it using primarily the pentatonic scale, but you can approach it in a variety of ways. For example, in bar 8, I switch from a pentatonic sound to a whole-tone one. Practice this lick in all 12 keys, using fingers 1, 2, and 3 on the right hand (or sometimes 1, 2, and 4), followed by fingers 2 and 3 on the left hand. A similar type of pattern appears in my synth lead solo from "Mouth to Mouth."



Ex. 2. Clavinet Breakdown

Here's the Clav breakdown from my song "Mouth to Mouth." I played it on a Nord Electro 2, using a Snarling Dogs wah pedal, with the wah effect used mainly in quarter-note succession. The thing to remember about Clavinet playing is that the main rhythm is carried by the right hand, and the left hand works to set it up, much like the way your left hand kicks jazz bass on a Hammond B-3 organ.

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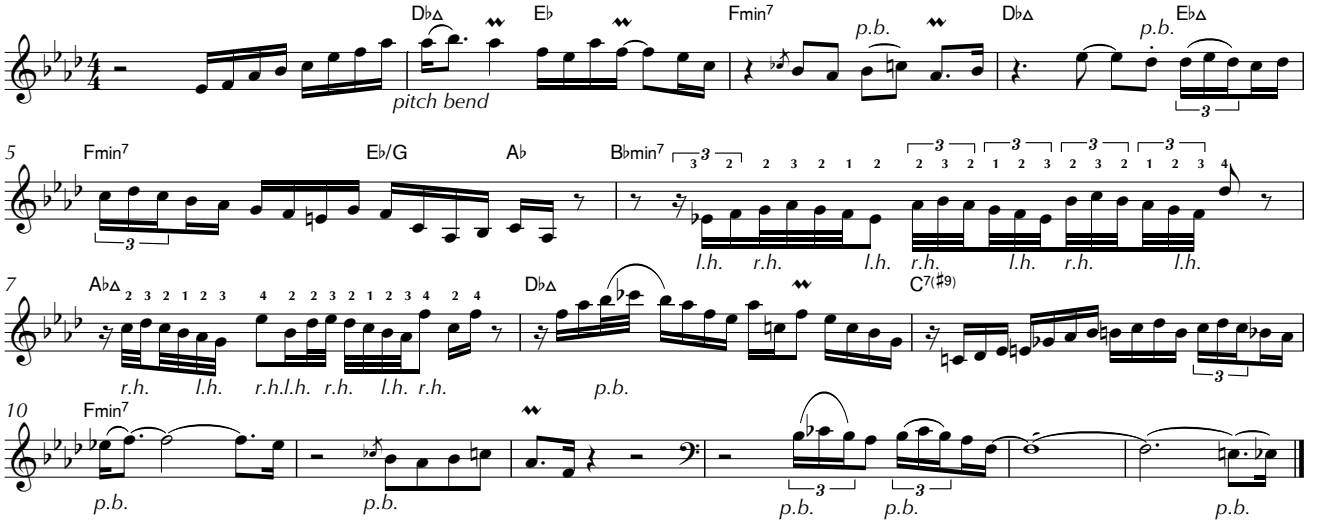
SHANNON FONTAINE

Joseph Wooten has played keyboards in the Steve Miller Band for 17 years. He also performs with bassist brother Victor in the Victor Wooten Band, as well as with brothers Regi, Roy (Futureman), Rudy, and Victor as the Wooten Brothers. In 2007, Joseph released *Hands Of Soul* as a leader, and is currently recording its follow-up *Life, Love, Truth*. Learn more at handsofsoul.com. Jon Regen

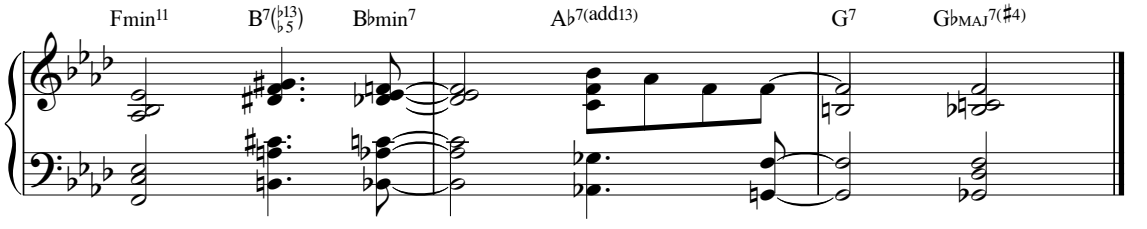
Ex. 3. Synth Lead

The style of this solo is reminiscent of George Duke, who changed my life the first time I heard him bend pitch on a Minimoog. The upward scale towards in bar 9 is a *C* altered scale, with half-steps added between the *E*♭ and *F*, and between the *B*♭ and *C*. I like to add an extra half-step in altered scales to make them sing rhythmically in 4/4 time. [*The triangle symbol, such as after the* D♭ *chord in measure 2, is an alternate way of notating a major seventh chord. –Ed.*]



Ex. 4. The Gospel

Here's an example of how rhythmic delivery can make even a repetitive chord progression sing out and groove. These voicings are derived from my song "The Gospel," which my brother Victor used on his *Palmystery* CD. Accenting and anticipating chords can give your keyboard parts an extra measure of funk flair.



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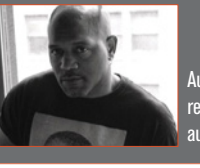
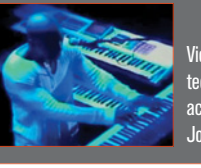


Audio examples recorded by the author.



Videos: These techniques in action at Joseph's gigs.

THE STATE OF HEAVY

6 Artists That Define the Role of Keyboards in Today's Hardest Rock

Here's the view we're up against: The heavier the rock, the less business keyboards have anywhere near it. When metal and ivory share musical and cultural space, it mutates the DNA of both, spawning abominations such as prog with Dungeons and Dragons-derived lyrics, or worse, Van Halen's "Jump," which to this day is the music-store keyboard department's equivalent of "No 'Stairway'!" Better to keep to a doctrine of rocking out in separate but equal realms, with Jerry Lee Lewis as the patron saint of one; of the other, Dimebag Darrell.

Of course this is nonsense. Often, we look to history for backup, citing that Steppenwolf's Hammond organ-grinder "Born To Be Wild" claims the first use of "heavy metal" in song lyrics, or that Jon Lord or Brian Auger could disturb the peace as severely as anyone with a Marshall stack. What about today? Where are the current keyboardists who are integral to cutting-edge bands that rock too hard for *anybody's* parents?

Look no further. They're in here.

DEFTONES

Frank Delgado on Why Openness Is So Metal

Left to right: Drummer Abe Cunningham, synthesist Frank Delgado, lead vocalist Chino Moreno, bassist Sergio Vega, and guitarist Stephen Carpenter.

13TH WITNESS

Perhaps the biggest credit to the originality of Deftones is that none of the labels have stuck—and the press has tried them all. Nu-metal, alt-metal, post-hardcore . . . the list goes on. For critical acclaim, blending of thoughtful melodies with kick-your-ass heaviness, lyrical sophistication, and fandom bordering on religion, they'd tie with Tool, though the two bands stop short of sounding alike. Now, two years after the car accident that gravely injured longtime bassist Chi Cheng, there rises *Diamond Eyes*. As singular as Deftones' sound itself is the role of DJ/keyboardist Frank Delgado in suffusing this phoenix of an album with inimitable soundscapes.

When you came into Deftones, it almost seemed like there was a conscious decision not to sound like a typical DJ-in-a-hard-rock-band. I did come from a DJ background, and especially being in a heavier band like Deftones, it took some time to figure out my role, without the stereotype—you know, there's a breakdown, then I'm supposed to scratch or whatever, but I never understood why it *had* to be that way. In a heavier

band, trying to fit in DJ- or synth-based sounds is not the easiest thing to do without it sounding cheesy.

How did you approach this challenge at first?

When I first got into the band, all I had were records. I tried to implement them in a more soundscape-y way. I was trying to be a rudimentary sampler, you could say. From there, I progressed into buying keyboards, and teaching myself to play. Before that, I'd been plugging in a bunch of effects and guitar pedals, so I could sustain sounds, pitch them, and turn them into atmospheres. Now, instead of searching my record crate for sounds that fit a moment in a song, I can build my own—mostly in Ableton Live—and play and write with them.

Do you use the soft synths in Ableton Live?

Yes, as well as the Nord Lead 2 I still have, and the Minimoog Voyager—its low end beefs up the bass on a lot of our songs. I also record stuff around the studio. While Stephen [Carpenter, guitarist] is jamming, I might record that, and some feedback, then dump that into Ableton and twist it some more. Maybe I'll spread it across the keys of a controller and pitch it. I'm no Ableton master, but I love how you can just keep twisting and turning until you make something cool, then hit "save." Back in the day, I had no gear and had to search through records to find sounds that fit, then figure out how to stretch them and make them work in a song. That's still how I work, but Ableton lets me do it all inside one program.

DEVIN PEIRCE

DEFGEAR

Frank Delgado at the center of his hybrid DJ/synth rig. *Left*: Minimoog Voyager. *DJ coffin, left to right*: Technics SL1200 turntable, Pioneer EFX-500 behind Rane mixer, Korg Kaoss KP-3 behind Pioneer CDJ-1000, MacBook Pro running Ableton Live, controlled by Novation ReMote SL. *Right*: Nord Lead 2 above Yamaha RS-7000 groove box. *Not visible*: Line 6 DL4 delay and EHX Small Stone phaser.

What was the first thing you heard that made you feel like electronics had a legitimate place in a band as heavy as Deftones?

I grew up in southern California, and was into anything DJ-related. When I moved to the Bay Area, I started listening to bands like Faith No More. I saw how they could pull off this heavy music that was still melodic and . . . *pretty*. It was still aggressive, but they had a keyboard player. That's what made me go, "I think *I* can do that."

Was *Diamond Eyes* different from your previous work with Deftones?

We used to spend a lot of time making records—it wasn't intentional, it was just how it happened. We'd go in with maybe half the songs, and we'd write the rest in the studio. It's creative, but it's also time-consuming and not cost-effective. This time, Nick Raskulinecz, the producer, never let us lose the initial spark of any song we'd started. We worked at a really efficient pace, and could actually play the album end-to-end before we started tracking. That hadn't happened in many years.

DEVIN PEIRCE

"Stef Carpenter, our guitarist, plays underlying synth stuff live on his Novation X-Station," says Frank.

What do you practice, or listen to for inspiration, outside of playing with Deftones?

I still DJ on the side, so I'm really into both dance music and hip-hop. Being a DJ has put me into different worlds of music over the years. When I was young, it was a hip-hop thing, but that causes you to find jazz and funk, even if just for sampling at first. You'd be surprised at the stuff you hear anyone in Deftones listening to. We're all over the map. Stephen Carpenter—you'd think he's just this metalhead. Which he *is*, but he also listens to hip-hop all day long! I sometimes listen to old funk and disco.

What do you think fans would be most surprised to learn you're into?

We make these pre-show "mixtapes" to play before we go on. They're anything and everything, from Meshuggah to Björk to Depeche Mode to Milli Vanilli! [*Laughs.*] If you've only heard our singles on the radio, that doesn't do justice to the range we try to pull off throughout an album or a show. We've also done these crazy B-side things—we've covered everything from Sade to the Cure.

What would you say to people who see DJs as less than real musicians?

To be a *good* DJ, you need rhythm, groove, a good ear—all the same things you need to play an instrument. Most DJs who stick with it end up moving into production. If you're really into it, it's going to open you up. You're going to see how different rhythms, bass lines, and chord progressions relate. Plus, with the technology we have now, anyone can present as a

"musician." It's a matter of how passionate you are. We could say the same thing about guitarists.

Can you a single out a Deftones song that represents your single biggest sonic contribution to the band yet?

I really love "You've Seen the Butcher," as I'm playing so many different things on it: samples, synths, turntables. I don't think I've ever heard a metal band pull off something quite like it—it's heavy as f***, but it's still sexy. One of my favorite things about our band is that there's a sense of melody, and even a little funk, despite the overall aggressive rock focus. We've always tried to debunk the notion that we can't do this or that because it's not "metal."

What advice would you give to someone who wants to be just like you?

You need to be open, which is hard to do when you're young. When you're young, you gravitate to the music of a given social circle. You get a little older, and it's not about hanging with a crowd anymore. If you can realize when you're young that it's *all* rock 'n' roll, and that there's nothing you need to be ashamed of listening to, you'll be ahead of the game. Stephen Fortner

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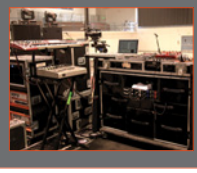

More Deftones pics and gear closeups.

JANNE WARMAN

Children of Bodom's Virtuoso Ragnarocker

ANGELA BOATWRIGHT

Left to right: Bassist Henkka Seppälä, keyboardist Janne Warman, lead guitarist and singer Alexi Laiho, guitarist Roope Latvala, and drummer Jaska Raatikainen.

Children of Bodom has been delivering their bone-crushing brand of Finnish metal—with two huge guitars, leviathan bass, and warp-speed dual kick drums—to rabid fans around the globe since 1993. Keyboardist Janne Warman has carved a unique niche in this imposing wall of metal might, not to mention taken his own playing to new heights of surgical precision—and tongue-in-cheek fun—on his solo project *Japanese Hospitality* (reviewed Feb. '09). We talked with Janne about how his keyboard approach in Children of Bodom has become a signature of the band's sound.

In Children of Bodom, synchronized melody lines are played in unison or in harmony with the guitars. Do you try to emulate guitars, or do you come up with more contrasting timbres?

For the past three or four albums, I've been using the same lead sound, which is a Korg Polysix emulation on JV-series Roland synths. Originally I used the JV-2080. Now, I use the XV-5050, which is based on the same architecture. But the XV-5050 has USB on it, so I can use the computer to edit and store stuff. I use a patch made by Jens Johansson, and I run that through a Turbo Rat distortion box. I just like the distortion lead sound. When Alexi [Laiho, guitarist] and I play these lines, we try to bend in unison. But I'm not trying to make it sound *like* a guitar. The distortion makes some people think I'm trying to play like a guitar, but I'm not.

Do you use any other effects?

I use a Boss CE-2 chorus and NS-2 Noise Suppressor on my leads. The

JUSSI HYTTINEN

Janne with some of his favorite studio synths. *Front*: Korg X5 flanked by Genelec monitors. *Right*: Nord Wave above Roland Juno-106. *Far right*: Wurlitzer 200A. *Back wall, left to right*: Korg X5, Hohner String Melody II, Roland JD-800.

chorus is before the distortion; the Noise Suppressor comes after. I get a lot of noise sometimes. Maybe it's from my power supplies. Recently, I've been using the MXR Carbon Copy delay on my leads. I don't know how I played before without this delay! So the delay is at the end of the chain. It's not mixed very loud, just enough to smooth things out.

What controller keyboards do you use live?

All of those are Korg X5s or X5Ds. The X5 is so small and light, and I really like its feel. It has pitch and mod wheels instead of the usual Korg joystick. I'm so old-school with that stuff—I like using the wheels! I overbend with joysticks. It's too bad they don't make those anymore. I literally have ten of them. I started buying them because I don't like the keyboards that are made nowadays. I play one onstage, but I have a backup at every show. Sometimes, when we do the big headliner shows, I have two keyboards on stage. One is at my keyboard station, and then another is down at the end of this walkway onstage. I also have a spare Roland XV-5050, although that has never failed me.

Guitars take up a lot of space in metal. How do you approach your arrangements so as to be heard?

Here's a thing that I think is very key, and that many metal keyboardists don't understand. I play in a band with two guitarists, so the wall of guitar sound is massive. I try not to play in the midrange where the guitars are dominating. I play melodies and leads a little bit above the guitars' register, or sometimes I double the bass lines.

Your band's drumming often has a double kick playing sixteenth-notes or sixteenth triplets. How do you interact with these fast rhythms?

It's funny you mention it, because on our new album, I'm doing a lot more doubling of those parts exactly. It's pretty unique to our band's sound.

Guitarists have up and down pick strokes with the pick, and drummers can play double-kick with two feet. But when keyboardists have to machine-gun the same note, we can only press the key down. How do you speed things up?

I use both hands for the really fast parts. If it's just sixteenths on one note, I can do it with one hand. But if the pattern is tricky, I divide it so that I can use both hands. I also use two or even three fingers for triplet patterns.

The dissonant quarter-note string part you play on "Hate Me," really reminded me of Bernard Herrmann's score to Hitchcock's *Psycho*. . . .

I enjoy film music a lot. When Hans Zimmer started the rock soundtrack era, I was really a big fan of that type of MIDI orchestration. But I've always been a fan of soundtracks.

How do you use keyboards differently than most bands?

It's the improvised solos. Most bands—not just in heavy metal—don't have improvised keyboard solos now, unfortunately! As we discussed, our band tries to have arrangements where the keyboard doesn't interfere with the guitars and stays in a different range and plays harmony or unison melodies with them.

Who was the first player that legitimized keyboards in metal for you?

Jens Johansson. He plays in a Finnish band called Stratovarius. When I heard his solos, I said, "Wow, I want to do that!" Then I checked out stuff he did as the original keyboardist with Yngwie Malmsteen [*Read about Yngwie's current keyboardist on page 12. —Ed.*] and I was amazed.

Let's talk about some important sounds used on specific songs you've recorded.

On "Living Dead Beat", the first song on the *Are You Dead Yet?* CD, the intro starts with a synth bass. This is from the original demo Alexi and I recorded, before we went into the studio. It was a Nord Lead Rack combined with something from a Roland JV—just a killer bass sound. We tried to recreate it in the real studio sessions, but everything we did sucked compared to this demo we'd recorded drunk in the middle of the night! So we used the track from the demo. We also recorded Britney Spears' "Oops, I Did It Again" for our recent cover album *Skeletons in the Closet.* On the original, it's a sampled piano down low. When we recorded the drums at Finnvox, the studio, I thought, "Hey, there's a great grand piano in here!" So I used that—a Yamaha concert grand—for the beginning.

What advice can you give to players who hear *you* and say, "That's what I want to do"?

Listen to all kinds of music, not just metal or whatever you're "into." Some of the keyboard stuff I do is straight out of pop, not only from metal. So listen to everything. That's how you do it! Erik Norlander

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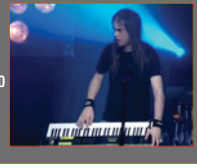
Exclusive video: Janne in the studio with Children of Bodom.



YouTube: Janne's synth vs. Alexi's guitar in epic solo battle!

CRASH KINGS

Tony Beliveau: Guitar Hero, Sans Guitar

Tony Beliveau of Crash Kings could be regarded as a keyboard hero right off the bat. Not only does his keyboard-fronted power trio rock your face off on their self-titled debut album, but their chops and songwriting are mature and memorable. Did we mention that he plays a rare Kawai EP-308 piano (Kawai's answer to the Yamaha CP series of electric grands) topped by a Hohner Clavinet he modded with a wicked whammy bar on top? Although Crash Kings has no guitar player, Tony gets a big-guitar sound out of that Clav you might expect from any of the other bands in this issue. We spoke with him and found out how.

How do you use keyboards differently than most bands that have a keyboard player?

I'd consider myself more of a piano player and less of a keyboard player. Most keyboard players I see in bands are usually not the front-man, and the keyboards aren't the featured instrument. Since Crash Kings doesn't have a guitarist, we have some space to fill. I love playing big spread chords on the piano, with octaves in the bass. I try to find melodies inside the chord progression that can be subtle yet help support the vocal melody. In many ways, I'm very interested in making the piano sound more like a guitar than a piano! I try to stay away from too many seventh chords, instead using pleasant tensions like ninths, 11ths, and 13ths on basic major and minor chords. Rhythmically, I love to try to push myself to play these chords in ways that aren't as common.

You're also known for making a Clav sound like a wall of guitars. . . .

My use of the Clavinet is much different since I'm using a whammy bar, then running it through pedals into a vintage tube amp. Since a Clavinet is essentially an electric guitar controlled by a piano keyboard, with real strings and pickups, I visualized playing it to make it sound just like a guitar. The idea of bending notes on a keyboard wasn't foreign, since you can do that on most synths. But there was a bit of a learning curve to playing this modified Clavinet. Once I got the hang of it, it was the most empowering feeling!

Who or what was the first player or song that made you see keyboards as legitimate for heavy rock?

Jon Lord from Deep Purple takes it on this score. Not only was he a monster keyboard player, his tone on the organ was so bad-ass and heavy. Emerson, Lake, & Palmer—and King Crimson—were other huge bands that made me see keyboards as a serious rock instrument. Keith Emerson was

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Tony Beliveau's all-vintage Crash Kings rig. *Left*: Octave Cat synth. *Right*: Hohner Clavinet D6 atop Kawai EP-308 electric grand piano. Protruding from the top of the Clav is the whammy bar Tony designed.

Closeup of the Clav's whammy mechanism.

Tony's pedalboard, left to right: EHX MicroPOG, MXR Phase 90, Fulltone Full-Drive 2 overdrive, and MXR Carbon Copy delay.

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just a madman on the keys. He had more of a classical background, but these guys were just epic. Frank Zappa had some gnarly, heavy keyboard and piano stuff going on. As "jazz" as they may be, Medeski, Martin, and Wood created some heavy-sounding instrumental keyboard rock. I was introduced to Ben Folds Five in the '90s, and got really intrigued with how Ben played piano. His approach was heavier than most pianists I'd seen, yet he definitely infused a lot of jazz into the band. When we were creating Crash Kings, we wanted to keep away from obvious "jazz chords" and riffs, and stick to more simple rock while still infusing certain tensions to make the chords sound tastier.

What do you think it is about your keyboard technique—piano and Clavinet—that rocks so hard no one misses the guitar player?

I love using octaves in the left hand for rock piano. Sparingly, I'll use the fifth in there, but it gets a bit muddy at times. I love playing four- or five-note chords using a simple sixteenth-note pattern, but accenting certain beats. Doing this consistently and in good time took awhile for me to master. On my Clavinet, it's about thinking like a guitarist. When you play an *E*, bending the whammy bar up can get you to an *F* or *F*♯, so you have to think ahead. For guitar players, that's built into learning the guitar. It's not something most piano players need to think about, since they can't bend piano strings—yet! Something people may not know is that I fix most of my own equipment. When I got my Clav, I did a ton of research, ordered new strings and hammer tips, and installed them. There were no instructions on how to do this whammy bar mod, so I just had to figure it out. I break strings all the time, so I have to replace them all the time. I also break low bass strings on the piano I travel with, and I replace those as well! I used to tune and repair my Fender Rhodes and some of my friends' Rhodes, so I was no stranger to fixing vintage keyboards.

What are your suggestions for how to practice?

I'd say just play what you love—and visualization is key. Always visualize what you want to play, how you want to play it, and how you want to look when you're playing it. I practice just as much in my head as I do physically on the piano. In college, I'd play until my wrists and fingers hurt, then stop. It's very important to stop playing when you feel any pain. I've seen friends injure themselves and have to drop out of music school for awhile because they kept playing even when in a lot of pain. You can build up your strength with time as long as you don't hurt yourself.

At the same time, I think it's important to push yourself to play things beyond your technical ability. Learning everything I could about jazz piano helped me with writing and performing *rock* piano. By no means am I a great jazz pianist—I know so many amazing cats who can walk all over me! But using subtle aspects of jazz and blues in rock has helped me discover chords that make our sound a bit more sophisticated than other rock bands. Another huge benefit is to learn every inversion for every chord you know. Try to master every song you know in every other key. These are things I'm still working on. That's what keeps me going: knowing that I'll never be as good as I want to be. Robbie Gennet

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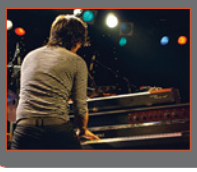


Watch Crash Kings play *Rolling Stone*'s greatest rock guitar songs–with no guitars!

Robbie Gennet interviews Tony in our exclusive video.

BLACK COUNTRY COMMUNION

Derek Sherinian on Getting the Cheese Out

ROBERT KNIGHT

Derek Sherinian just may be the keyboardist laureate of hard rock. His touring and recording career, which began after just three semesters at Berklee College of Music, has included stints with Alice Cooper (who dubbed Derek "the Caligula of keyboards"), Billy Idol, Dream Theater, and Kiss. His last solo album, *Molecular Heinosity* (see *Keyboard*, Aug. '09) featured metal monster Zakk Wylde on guitar. Now, he's one-fourth of roots rock supergroup Black Country Communion, whose eponymous CD dropped September 21. It's a confluence of rock greats—his bandmates are (left to right) bluesman Joe Bonamassa, who at age 12 played with B.B. King and has since matured into one of the most tasteful and critically acclaimed power-guitarists in rock; bassist and lead vocalist Glenn Hughes of post-Glover Deep Purple fame; and Led Zeppelin progeny Jason Bonham on drums.

How do you use keyboards differently than most bands that have a keyboard player?

Keyboards have a bad reputation in hard rock music for adding a cheese factor. I place great importance on using ballsy sounds that are timeless and contribute to the music. A distorted Hammond B-3 will always be cool. I've also been running my Nord Electro 3 through my hot-rodded Leslie 147 using Mellotron and Wurlitzer sounds. It sounds killer.

How should keyboardists who aim to be taken seriously as rockers avoid this cheese factor?

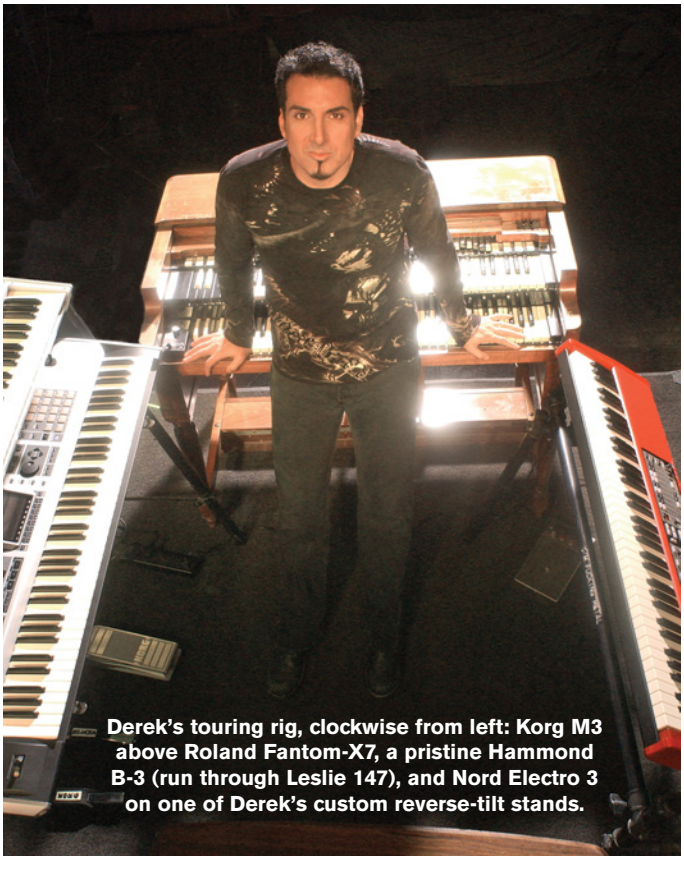
You want to stay away from anything that sounds like it could be from a video game. Always exercise quality control. For example, I cringe every time I hear someone play an organ patch on a synth and use the modulation wheel for the Leslie effect. Also, if you're going to use piano sounds, make sure that they're quality samples if you can't mike up and play the real thing. I'm also not a big fan of gadgets such as keytars.

Who were the first players that made you see keyboards as a legit instrument for heavier rock?

Jon Lord's Hammond sound on "Highway Star" by Deep Purple was a big ear-opener for me. Jan Hammer inspired me with his guitaristic approach. Also, there's Jens Johansson's playing on the early Yngwie Malmsteen records.

Describe a skill, way you use keyboards, or other type of approach that fans of your music might be surprised to find out you use.

Zakk Wylde gave me one of his MXR Signature overdrive pedals. I run my Nord Lead 3 through it for unison leads, and to beef up the low end when I'm doubling the rhythm guitar. I've also run my Nord through



MARTY TEMME.

Derek's touring rig, clockwise from left: Korg M3 above Roland Fantom-X7, a pristine Hammond B-3 (run through Leslie 147), and Nord Electro 3 on one of Derek's custom reverse-tilt stands.

Can a music program create professional, real-sounding arrangements and solos for your songs from only a chord progression?

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THE FUTURE OF SOUND

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Zakk's Marshall stack, which sounds pretty massive. Keyboards, especially digital ones, are cold instruments. I do everything I can to humanize and ballsify them.

You've been playing alongside wall-of-guitar artists your entire career. What was distinct about fitting your sound and style into Black Country, as opposed to, say, Alice Cooper or Billy Idol?

Alice and Billy are established artists, so there's pretty much a script to follow with them. Black Country, on the other hand, is a band that I'm in from ground up, so there's a lot more freedom. The band is very rooted in classic rock, with some progressive moments. I hope on the next record to push the envelope a bit more and widen the range of keyboards that I use.

What were the main synths and sounds used in this project?

On the Black Country Communion record, I used 95 percent Hammond B-3. There were two songs for which I used a vintage Mellotron from the '60s—I'm not sure of the exact model. I also used my Korg M3 for some textures, but it was nice to really squeeze as much juice out of the B-3 as possible to make it the primary color of the keyboards.

What are your suggestions to fans and aspiring keyboard shredders for how to practice—and what material to practice?

I think the most important thing is to practice the style that you enjoy the most. It's important to have a command of your instrument by learning the rudiments. Try always to surround yourself with musicians that are more developed than you are. You should also place great emphasis on your sounds.

We've talked before about the reverse-tilt stands that give people a better view of your hands. Any luck bringing those to the mass market?

No, but I have noticed a lot of keyboardists using similarly customized stands. I saw a guy rocking the tilted stand on *Soul Train* recently.

What's your personal favorite "shred moment" in your career?

Most of those moments are on any of my solo or Planet X records because I had complete creative freedom there. There are some ripping moments from my tenure with Dream Theater. *BCC* is a guitar-dominated album, but we really wanted to fill the available spaces with old-school B-3, so I'm mainly gluing things together in that respect. Live, though, I'll make sure to get some extended solos so I can vent. Stephen Fortner

RICK GOULD

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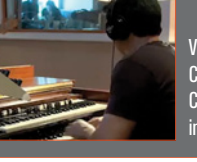
Our interview with Derek when he released *Molecular Heinosity.*



Video: Black Country Communion in session.

NATIVE INSTRUMENTS
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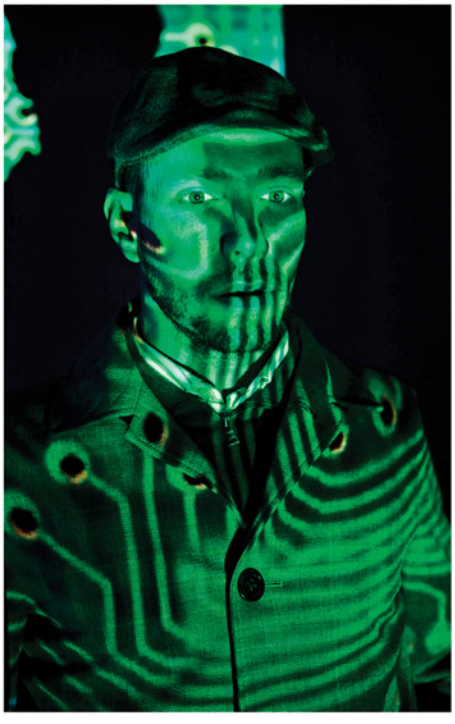
RETURN TO EARTH

Cerebral Metal with Chris Pennie



SETH KUSHNER

Because he's well known for drumming with rockers Dillinger Escape Plan and Coheed and Cambria, it might come as a surprise that Chris Pennie majored in music synthesis at Berklee. "Programming was a little bit more up my alley," he says. Return to Earth, his metal collaboration with guitarist Brett Aveni and vocalist Ron Scalzo (known in his solo career as Q*Ball), gave him a chance to step out from behind the drum kit and apply his synthesis knowledge to 2010's *Automata*.

What inspired you to play keyboards?

My parents told me I wore out Billy Joel's *The Stranger* and *Glass Houses* on vinyl. From there, I was fascinated with the whole industrial movement. Nine Inch Nails, Ministry, and Skinny Puppy mixed with a healthy dose of UNKLE, DJ Shadow, DJ Spooky, and Aphex Twin. That's the recipe for what sparked my interest outside of just playing drums. I always had a huge fascination with how music was made outside of a traditional "combo" band context.

What were the first keyboards you bought or owned?

The Korg X3 and a Roland SP series phrase sampler. I was totally blown away by all the sounds in the X3 and learning how to sequence. It was just as fun making loops with the SP, mapping them to keys on the X3, and firing them off while we were playing. That totally opened up the creative floodgates.

What was your first live or recording gig? How prepared were you for it?

When I was 15, my dad hooked me up with a friend that had this cover band. We played a lot of bars, and my father was so supportive of me. I wasn't old enough to play in these places, so he accompanied me to every gig. From there I started two original bands, which later fused together to become the Dillinger Escape Plan. Playing those bars taught me how to play with other people.

What do you wish you had spent more time learning when you were younger?

I really have no regrets in terms of education. Upon attending Berklee, however, it was important for me *not* to go for a degree in performance. I still wanted to further my education in music, but not make playing my main focus. I always felt that if you wanted to perform, the best way is to just get out there and play with a band. At Berklee, I was just fascinated with everything under the synthesis umbrella, and this was right before the software explosion.

What was your approach to utilizing keys on the record?

Our approach to this record was to play the songs as a band first. A lot of the writing process started with guitars and drums. There were a few tunes that started with loops, and we would play on top of that, but it wasn't really until we tracked the drums and guitars that we would program on top of that. We didn't want to stomp all over what was trying to be captured, and for Return to Earth, that thing is ultimately a rock band.

What was the songwriting/demoing process like for *Automata*?

The most important aspect is to have that vibe in which the writing and playing has an *urgency* to it. It's very easy nowadays to let production dictate the whole process. For us, production is important, but secondary. Our process usually goes like this: Brett [Aveni, guitarist] and I get into

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CHRISSY RAE

Return to Earth's Chris Pennie (left) and Brett Aveni (right).

RETURN TO GEAR

Roland JX-305: This was my first introduction to digital emulation of analog synths, and I know this keyboard inside and out, so I made a lot of custom patches on it.

Roland SP-808EX: The older version of the SP-555. I used it a lot with Dillinger Escape Plan, and I still love it. We made a lot of custom samples for the record on it.

Korg KM-202 Kaoss Mixer: I really dig this mixer for DJing, but we also used it to process some of the guitar and vocals, and used those Theremin-type presets for some wacky noises on tunes.

Steinberg Cubase 5: We all swear by Cubase or Nuendo; we just happen to love how Cubase ultimately sounded. It's such an amazing DAW. Our favorite!

Native Instruments Komplete: This is a staple of our studio. Kontakt has been one of my favorites since it was first introduced. We used it to mangle vocals and guitars, then layered them under the main tracks to thicken and dirty up the sound in spots.

Garritan Personal Orchestra: Before we had Vienna, we used Garritan a lot to flush out those orchestral interludes on *Automata*. It was our first introduction to making a score or orchestral piece—quite fun.

Vienna Symphonic Library: We had just purchased the standard library as we were finishing up, but added it in spots. We were totally blown away. We've been using it a lot with our sound production company Fight Mannequins. We also used Synplant and some of the Arturia plug-ins. Chris Pennie

the room and start hashing out ideas, and within that session we hammer out some loose sketches. From there I'll demo drums at my studio and send the tracks to Brett. He drops on some guitars, then Brett and Ron [Scalzo, lead singer] will work on vocals. Meanwhile, I'll drop some programming while they're working. After a rough vocal is placed, we'll all add more production aspects. The main thing is that we always *play* our songs out before starting the process of recording demos. I can't over-emphasize the importance of how live interaction between all of us affects the songs.

When you tour *Automata*, how much programming or playback will be involved?

We want a healthy balance of live playing and sequencing. When you just run tracks, it has a stale vibe, and the tracks can get buried in rock music. So we like to play certain parts. I also think the writing lends itself to showcasing some synths, not just guitars, vocals, and drums.

Offstage, what are your favorite keyboards and software to work with?

For Brett and I it would have to be the Vienna Symphonic Library. We love everything they've made. I also just bought that [Sugar Bytes] Effectrix plug-in, the newest version of Reason, and NI Komplete. I personally want to dive into Ableton Live a bit more as well.

What would you like to see develop in software or keyboards?

The biggest thing for me, since I don't have much time, is some way to cut down on the install time of some of these software packages.

What's your best advice for someone who aspires to your level of musical success?

First, always seek out education. Second, get out there and play with real, live people. Third, learn to play other instruments—an understanding of what someone else is trying to communicate when playing will make you a better *musician*, not just a drummer or keyboard player. Robbie Gennet

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Official video and trailer for *Automata*.

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ADAM WAKEMAN

On Tour with Ozzy Osbourne

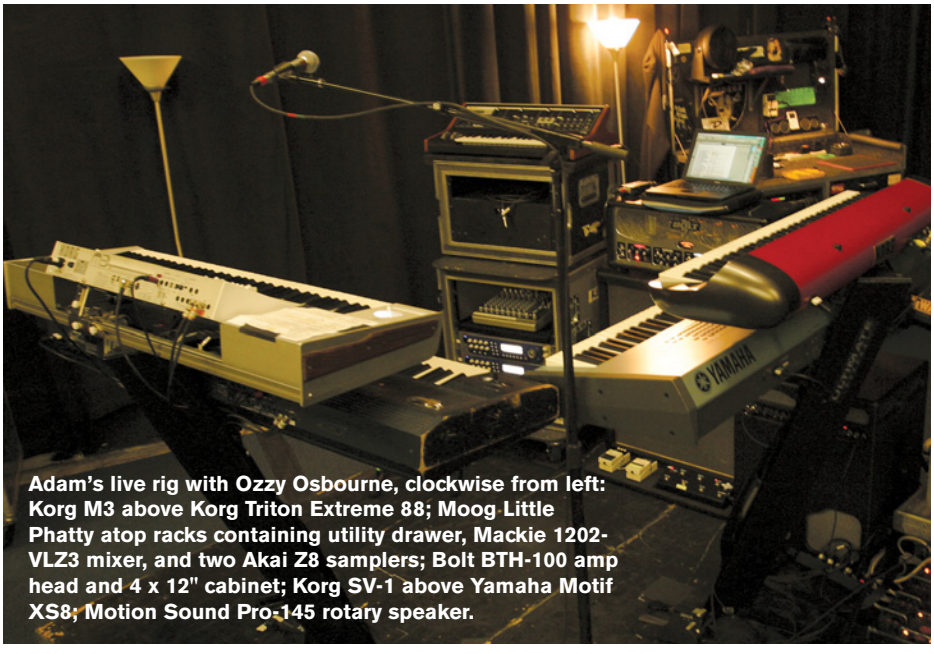
The very idea of playing with Ozzy Osbourne is daunting, but it's a gig Adam Wakeman was literally born to do. Adam may have come from rock royalty—his father is original Yes keyboardist Rick Wakeman—but his skills stand on their own. Besides touring and recording with his father, Wakeman has played keyboards for Travis, Annie Lennox, and Black Sabbath, the latter of which led him to his current gig with hard rock's Prince of Darkness.

Though one might assume Wakeman grew up in a veritable keyboard museum, his early exposure was limited. It wasn't until he started piano lessons at age eight that he saw an Anderson-Bruford-Wakeman-Howe show at Wembley in London. "I saw that show and I thought, that's what I want to do!" he says. "That was the start of many hours of practicing instead of going out with my mates to play football."

Adam's dad was supportive, buying him an upright piano with a bit of history. "Once I stuck with piano lessons, my dad got me a piano from the band Mungo Jerry. 'In the Summertime' was written on this piano. I was about ten when it arrived at my mom's. She was sweeping out the back of it and all these joints came out!" (Fortunately, he wasn't quite aware of what to do with them at the time.)

"I was learning classical music and some of Dad's bits, like 'Merlin the Magician,'" says Adam. "I asked him to show me how to play it, but he told me to go listen to it and learn it, which was harsh for a ten-year-old! In hindsight, he did that to help develop my ear, and it's probably the best lesson he's given me. At studio sessions in London, you have very little time to learn a piece of music, and learning to *listen* as early as I did has helped me immeasurably."

His first electronic keyboard was one of his dad's Yamaha CP30



Adam's live rig with Ozzy Osbourne, clockwise from left: Korg M3 above Korg Triton Extreme 88; Moog Little Phatty atop racks containing utility drawer, Mackie 1202-VLZ3 mixer, and two Akai Z8 samplers; Bolt BTH-100 amp head and 4 x 12" cabinet; Korg SV-1 above Yamaha Motif XS8; Motion Sound Pro-145 rotary speaker.

electronic pianos. "It had eight sounds you could mix, but seven were just very bad electric pianos—plus one harpsichord," he chuckles. When he finally got a chance to play his dad's working rig, it blew him away. "I went to Dallas to see him with Yes, and he let me play his Hammond," he recalls. "It was so loud! I have in-ears, but my dad's kind of old-school. He had these big Celestion P.A. speakers behind him."

Soon after, he and Rick embarked on a musical journey that spanned eight studio albums and a lot of touring. The music ran from prog to classical in flavor. After ten years recording and touring with Rick, he started doing more London sessions, where he met musical directors for pop bands. He played on dozens of boy band sessions, for which he says he "could have left one hand at home."

His first tour after that was with Atomic Kitten, after which he played with Travis for four years, followed by a high-profile stint with Annie Lennox. After a celebrity-packed Lennox show in L.A., he got to chat with Sharon Osbourne. While on the road with Travis, he got an email offering the Ozzy gig, which he reluctantly declined—the professional thing to do when you're already mid-tour. Right after that, Ozzy had his infamous all-terrain vehicle accident and was recuperating for over a year, which was just how long the Travis tour ran. When Adam got the next call for Ozzy, the timing was right. A week before the tour was to begin, it turned into a Black Sabbath reunion.

When it came time to record *Scream*, Zakk Wylde would normally have been co-writing, but given his schedule, producer Kevin Churko phoned Adam to come write with Ozzy. Five of the songs they wrote together made the record. Though Ozzy is not an instrumentalist, "he was hands-on with writing the music," says Adam. "He'd vocalize riffs

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and come up with melodies. It was very much a good environment. He has a studio in the basement and he'd come down after working out in his gym most days. We were always just . . . around, and I think he liked that—it wasn't 20 songwriters coming in."

On the current *Scream* tour, Wakeman plays keyboard parts from not only the new album but classics such as "No More Tears" and "Mr. Crowley." He also played some guitar alongside Ozzy's wicked new guitarist, Gus Z. "As a kid, I was more into Zeppelin and Van Halen," he says. "This is the perfect gig because I get also to play some guitar on Sabbath tunes like 'Paranoid,' 'Iron Man,' and 'Sweet Leaf.' 'Snowblind' is part keys, part guitar."

Adam uses a Motion Sound Pro-145 to amplify organ sounds. "The Motion Sound cabinets are brilliant," he beams. "I have an assignable out to the Pro-145 from my Yamaha Motif XS8, carrying just a clean, dry organ sound. Now that I play more guitar, I also use their parent company's new Bolt amps, which are amazing."

Wakeman's rig also features a host of Korgs to replace the vintage keyboards he keeps at home. "I love the string sounds on the Kurzweil K2000," he says, "but I've stopped using it live because it's older. I had a Korg Trinity for a long time, but the Triton is still my favorite keyboard. It's so easy to use and it's got great sounds. I did some programming for Korg in Japan. I use a Korg M3 and Triton Extreme now. The Korg family of keyboards seems to be more playable. I love the Motif XS8 and it's got a good action. But for programming, I feel most comfortable on a Korg. It's a little like Mac versus PC—you gravitate to one or the other.

"There's one thing that really bugs me about *all* modern keyboards," Adam points out. "Out of the box, they've got far too many effects on them, arpeggiators triggering drums, all this nonsense. The first thing I do is to turn it all off. I just want to get the fundamental sound I need.

"With the Korg SV-1, it's kind of gone the other way. It's much more basic and they really concentrate on vintage sounds. Just having the dials is brilliant. I love how you can just turn the distortion up. I wish I had that for the Sabbath stuff back in 2003 and '04. My predominant job there was doubling the guitars, so I sampled my 1974 Fender Rhodes and put some distortion on it. That was a great sound for anything heavy. Now I do the same thing with the Rhodes sample from the SV-1."

Wakeman has a taste for keyboard design as well as sound. "The first thing I thought about the SV-1 was that finally, the design is up there with the Moog Little Phatty. Moog's stuff has always looked cool. The Korg SV-1 was designed by the Italians. They've got their style down. There's a wow factor—the red color, the visible tube. With the Little Phatty, I love the way the lights move when you turn on. It doesn't need to do that but it does. It's just great." Robbie Gennet

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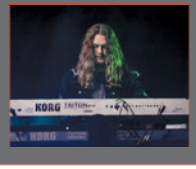
Video: Tour of Adam's Ozzy rig, and how to play "Mr. Crowley."



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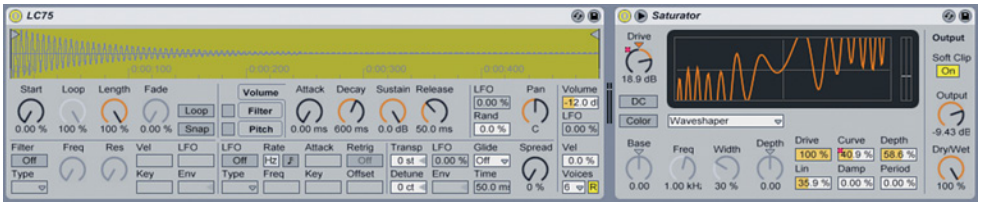
DISTORTION TRICKS, PART I

Ah, distortion—the essence of industrial, fill-in-the-blank-core, and many IDM subgenres, to say nothing of rock 'n' roll. For many dance producers, distortion is like nails on a chalkboard, but for the intrepid, it can be a source of truly interesting textures. This month, we'll cover three ways to use distortion—and its brainier cousin, waveshaping—to turn a ho-hum instrument into something unique. Next month, we'll look at a different type of distortion effect: bit-crushing. Francis Preve

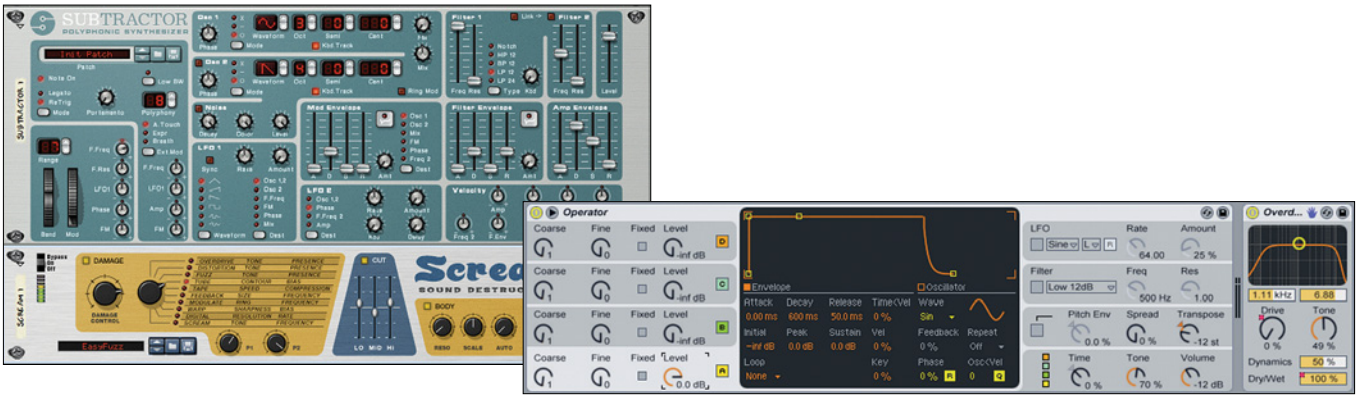


Ex. 1. New Life for Electronic Percussion

Everyone knows the classic TR-808 tom and conga. At the heart of these sounds lies a simple sine wave—a perfect candidate for waveshaping. First, switch Ableton Live's Saturator device to Waveshaper mode, then tinker with the curve, depth, and linearity parameters. You'll be greeted with a sharp, synthy texture that's much more complex than the distorted square wave you may have expected.

Ex. 2. More Conga Fun

One of the reasons congas (either synthetic or real) are ripe candidates for waveshaping is that their tone is free of excessive harmonic content, which can make distortion sound extremely harsh. Here, we use Live's Saturator again to transform an acoustic conga loop into something that blurs the line between electronic and organic.



Ex. 3. Distortion as a Synthesis Tool

Since all modern DAWs include basic synth and distortion tools, we'll use Reason (left) to demonstrate a nifty sound design trick. Start by creating a Subtractor with an initialized patch, then switch oscillator 1 to a sine wave and leave oscillator 2 off. From there, add a Scream effect and examine the sound of each of its modes. Fuzz, Distortion, and Overdrive deliver familiar results, but Tape and Tube modes are capable of subtlety. Ableton users can achieve the same effect by using Operator's default patch in conjunction with the Saturator Waveshaper mode (right).

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EXTREME TRITON, EXTREME '80S

When I perform with New York-based '80s cover band Rubix Kube, a great deal of my energy is devoted to reproducing the keyboard sounds of well-known songs. I get a lot of mileage out of a compact keyboard rig:

Keyboardist and sound designer **Paul Armento**, (a.k.a. Sky), grew up in Franklin Lakes, New Jersey, and began studying piano at age six. Armento's years of computer music production developed his ear for reverse-engineering keyboard sounds for a series of tribute bands. His rock CD *The Ism/New World* was recently released independently. Find out more at the-ism.com and paularmento.com.

61-key Korg Triton Extreme workstation.

Roland AX-7 keytar controller.

M-Audio MidAir wireless MIDI interface.

The Triton is my only sound source, but it features eight layers in Combi mode, and packs a variety of sampled and analog-style sounds, plus effects that I tweak and combine to emulate signature '80s sounds. I play the Triton itself for songs that require aftertouch or a sustain pedal. The AX-7 is set to MIDI channel 2, and I put it above the Triton on a two-tier stand for songs requiring more sounds than I can play on one keyboard. For simpler parts, I sling the AX-7 over my shoulder and join the party. The MidAir lets me interact wirelessly with the Triton and roam among the band. There are lots of ways to get the following five sounds, but here's how I do it with Triton Extreme factory patches and a bit of effects programming. I've included both patch names and banks/numbers. Paul Armento

Europe, "The Final Countdown"

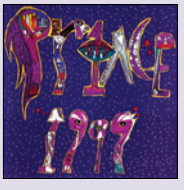
LAYERS: "DynaBrassStereo" (M041) for brightness and attack, and "Horns & Ensemble" (K057) for fullness and body. I set both at equal volume, and to forced monophonic mode, which makes the patch a little harder to play but more authentic.
EFECTS: I route "DynaBrassStereo" through "Multitap Delay" (FX045), with tap time 1 at 350ms, tap time 2 at 220ms, and wet/dry mix at 17:83. I then link it to "Reverb Hall" (FX052) with wet/dry mix set to 7:93. I send "Horns & Ensemble" through "Limiter-Mt.Delay" (FX073) with tap time 1 at 350ms, tap time 2 at 600ms, and wet/dry mix at 17:83.

Van Halen, "Jump"

LAYERS: "Double Sawtooth" (E017), "Detuned Square" (G081), "Power Saw" (M089), and "Analog Pad" (M057). I set the first two layers down one octave. All layers are at the maximum volume of 127, except "Detuned Square," which is at 110.
EFFECTS: I link three effects in a chain, and bring the layers in at different points. The linked effects are "Rotary Speaker" (FX040), "MultiTap Chorus/Delay" (FX018), and "Reverb Smooth Hall" (FX053). "Double Sawtooth" and "Analog Pad" are sent only to FX053, while "Power Saw" goes through all three effects. I use no effects on "Detuned Square."

Eddie Money, "Take Me Home Tonight"

LAYERS: I only need two layers for this memorable patch: "Pop Synth Pad" (K032) for body, and "Nu Goa Synth" (C085) for attack. Volumes are 102 and 117, respectively.
EFFECTS: A chain of "Stereo Compressor" (FX002) and "Reverb Hall" (FX052). I set the compressor output to 61, sensitivity to 40, and attack to 50. The reverb is at a wet/dry mix of 6:94. I send "Pop Synth Pad" through both effects, but "Nu Goa Synth" goes through the reverb only.



Prince, "1999"

LAYERS: The fact that this sound only uses one layer demonstrates how effects can really make a difference. The patch is "Brass Oct Synth" (C004).
EFFECTS: "Multitap Delay" (FX045) with tap time 1 at 350ms, tap time 2 at 500ms, and wet/dry mix at 3/97. Then (serially), "Reverb Hall" (FX052) with a wet/dry mix of 5:95. Rather than use the joystick for modulation, I modified the patch to trigger the LFO via aftertouch. This lets me add Prince-like synth vibrato while keeping my left hand on those fat bass notes.

Journey, "Don't Stop Believing"

LAYERS: Many bands cover this song with a single piano patch and some chorus, but to make it sound spot-on, I use two layers with detuning and effects. The sounds are "BD Grand Piano" (A000) and "Power Piano" (A004). I set volumes to 127 and 120, respectively, because I want A000 to lead the ear with pitch, as I detune A004 seven cents sharp.
EFFECTS: A chain of "Stereo Chorus" (FX016) and "ReverbWetPlate" (FX054). I send A000 through both effects, and leave A004 dry. The chorus waveform is set to triangle, depth to 40, and wet/dry mix to 50:50. The reverb is at a wet/dry mix of 11:89.

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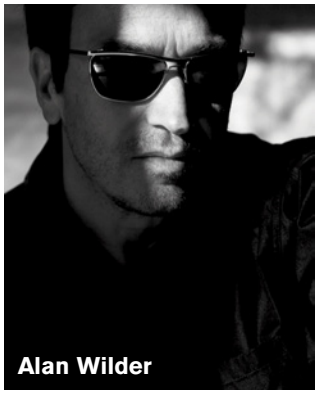
Audio examples recorded by the author.

Catch these sounds in action at a Rubix Kube show.

Producers' Roundtable

SECRETS OF KILLER PAD DESIGN

This month, we asked our industry's top producers to give us the inside scoop on their secrets for approaching pads, washes, and ethereal effects. Reach out to us by your favorite means (see page 10) with topics and names of artists you'd like us to interrogate. Francis Preve


Alan Wilder

Alan Wilder

(Recoil, Depeche Mode | recoil.co.uk)

I nearly always go for sampled performances using orchestral strings or something with some inherent noise and dirt, then heavily treat them in any number of ways. Quite often I send the source sounds through an EMS VCS3 synthesizer to use its unique filtering, envelopes, and so on. After that, I might resort to old-school tape effects like the Roland Space Echo to create feedback loops. This sometimes results in a completely new product which I'd then sample, stretch, or reverse, creating a unique pad nobody else will have used. No synth presets allowed!

Wolfgang Gartner

SHERVIN LANIEZ

Dan Kurtz

Dan Kurtz

(Dragonette | dragonette.com)

We tend to layer loads of ES2 synths in [Apple] Logic. A relatively haphazard approach to the ADSR envelopes and filters ensues; generally we're trying to get as full-range a pad as possible while leaving room for bass and carving space out for vocals. We end up ducking the keys with a kick [via a sidechained compressor], and in some cases we'll mute or edit out keyboard parts around vocal sections that need additional clarity.

Wolfgang Gartner

(wolfganggartner.com)

For something like this, I usually like to use a synth that has a lot of voices to get that rich, layered effect. In most cases I'd also drench the part in reverb, delay, and whatever other effects work for the particular sound. "Dryer is better" is usually my motto but pads are one area where this doesn't really apply.

James Cayzer

James Cayzer

(Jaytech | jaytechmusic.com)

My first trick is to use a few different types of instrument. I'm a fan of an "authentic" string instrument layered with a more washed-out, effects-laden synth pad, as the two different timbres work together to prevent each other from sounding tacky. I usually have a bit of chorus (or Ensemble in Logic) as well as light reverb to move things to the back of the sound space. If you're looking for more movement in your pads, try layering some white noise with a slowly rising and falling filter sweep and some delay.

Boom Jinx

Boom Jinx

(boomjinx.com)

I've always been a big fan of layering sounds. Rich pads take up a fair amount of space, and to make things worse, I love playing chords with double-octave bass notes. I've had great results shelving both the bass and lower mids with a 3-to-6 dB slope just before the lower tone goes completely missing. It's still there but it takes less space, which is very different than not pressing the lower two keys altogether. Layering sounds adds the chance of more dynamics, so routing all this beauty to a group with a bus compressor that's not working too hard is almost guaranteed to give you better results. If pads sound too digital or brittle, I shelve out what happens over 12kHz.

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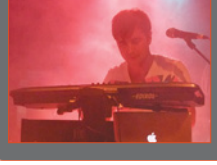
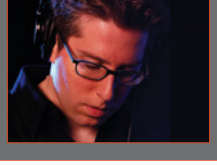

Read our original interview with Dragonette.


Josh Harris' favorite synths for pads.

Arturia
MUSICAL INSTRUMENTS

25 ANALOG EXPERIENCE THE PLAYER

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www.arturia.com

The Performance pane (top) lets you go nuts editing guitar characteristics. The Mixer (bottom) can load tons of effects, and lets you create up to 64 channels, including surround.

Amped samples load three sets of virtual stompboxes, as shown when you click on the Effects tab.

Vir2 ELECTRI6ITY

by Craig Anderton

I once gave a seminar in Nashville on synth programming. One attendee asked, "I can't get a good guitar sound from my synth. What do you recommend?" The answer was obvious: "You're in Nashville. *Hire a guitarist.*"

Today, my answer would include "or get Electri6ity." As I play both guitar and keyboards, I see this ambitious, complex virtual instrument from both angles. As a guitarist, I'm very impressed by the realism, and as a keyboardist, it's possible to create physically impossible guitar parts.

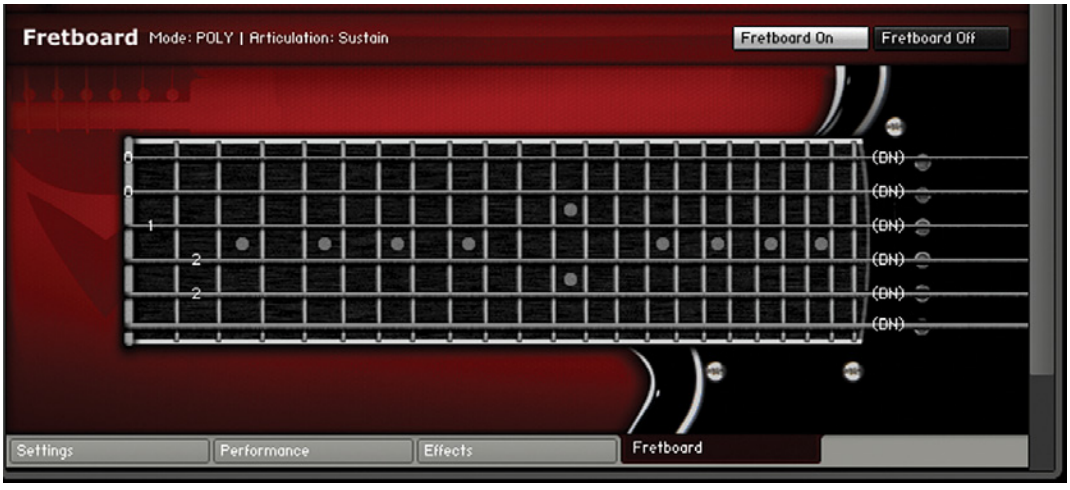
The Kontakt Konnection

Electri6ity pushes Native Instruments' Kontakt 4 Player to the limits, especially with the number of samples (over 24,000 per guitar), and the scripting that turns incoming MIDI data into realistic guitar voicings. A simple example of this is assigning successive notes to alternate between up and down strums.

Cleverly, Electri6ity uses only clean samples of its guitars: Les Paul, Les Paul P90, Stratocaster, Telecaster, 335, L4, Danelectro Lipstick, and Rickenbacker. Why? Clean samples get around the "you should have sampled it through a Marshall/Twin/Mesa Boogie/whatever" issue, as there are two preset options: DI for sending sounds through a physical amp, and Amped presets, which include effects drawn from NI's Guitar Rig amp modeling software. With 27GB of samples, loading a guitar's set requires a lot of RAM, which is why Electri6ity is spec'ed for 4GB. You can get by with less, but you'll probably have to reduce the number of articulations–and forget about multis.

The Keyboard Konnection

The keyswitching and articulations really call for an 88-note keyboard, as you use keys above and below the standard guitar range for triggering; fewer notes will work if you edit after the fact, are handy with



The virtual fretboard shows how notes are mapped, and the strum direction.

your octave-shift buttons, or click on the virtual keyboard's notes, but half the fun of Electri6ity is *performing* with it.

I can't emphasize enough how many options there are, and how daunting this can be. You'll need to refer to the manual, and several "cheat sheets" are worth printing out as you learn the program. Sometimes I think it would be easier to learn guitar itself than all the options in Electri6ity, but the more you work with the articulations, the more you realize you don't need to use *all* of them, *all* the time. Even a few is enough to spice up the presets.

The King Kong Konnection

You can make huge sounds, but also very detailed ones because of tremendous control over multiple parameters. The Settings page edits characteristics of individual strings, like tuning, sympathetic resonance, dynamic attack, pitch drift, level, velocity, vibrato, and much more—and you can control all these via MIDI continuous controllers. A Performance page lets you switch pickups, alter the guitar's tone control, change pick position (closer to the neck or bridge), pick direction (up, down, or alternating), control morphing, and so on. A real-time Fretboard page shows notes being plucked, with artificial intelligence to map notes in a "guitaristic" way, although you can turn this off.

With Amped presets, an additional page offers effects. There are multi-effects with independent phaser, flanger, chorus, reverb, and delay; distortion; and amp modeling with seven amps, three mics, and three rooms, with two sets of variations and three bands of parametric EQ. However, you can do lots without touching the Amped presets, because the mixer section offers multiple outputs and aux channels, and each has four effect inserts. Here, there are 17 effects (compressor, limiter, cabinet, distortion, delay, convolution, etc.) along with 19 filters; the convolution effect is welcome for adding ambiences like spring reverb or guitar body acoustics. (Note: It may seem like you can drag effects into the virtual rack, but you can use them only with the inserts.)

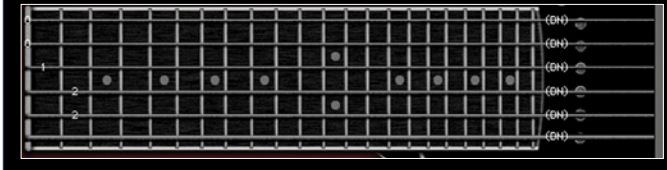
Tweak-wise, I disabled vibrato because it's more realistic to do it with your keyboard's pitch wheel, using your fingers—like a real guitarist. Also, I like a synth-action keyboard better than weighted keys; what works for a stage piano just doesn't feel right for "guitar."

The fretboard window is tremendously helpful, as you can see the guitar voicings being used. This helped me mimic what I'd play on a fretboard, but keyboard players can check out chord books for guitar. (Android phone users, check out Solo Lite's Chord Library page—it has voicings for a zillion guitar chords, and the app is free).

Specifications

PROS Good selection of guitars. Huge number of realistic guitar articulations. Mixer section offers effects, as well as Amped presets with their own effects. Maps chords how a guitarist would play them. Excellent morphing between samples.

CONS Really wants at least 4GB of RAM and a 64-bit OS. Flexible enough to be daunting. Becoming an articulations expert takes practice.



CONCEPT Sample-based virtual guitar with extreme flexibility—you can reproduce not just a guitar's notes, but its vibe and voicings.
FORMATS Mac or PC. AU, VST, or standalone.
MINIMUM SYSTEM REQUIREMENTS *Mac:* OS 10.5 or later, Intel Core Duo 1.66GHz, 4GB RAM.
PC: Windows XP2 (SP2, 32-bit), Vista 32/64, 7 32/64, 1.4GHz Pentium or Athlon, 4GB RAM.
RECOMMENDED SYSTEM 64-bit OS, more than 4GB RAM, and quad-core processor.

PRICE **List: $399**
Approx. street: $320

vir2.com

Conclusions

If you're willing to learn the articulations and your computer is up to the task, Electri6ity will let you create realistic, satisfying guitar parts. You want heavy? You want big? You got it. Almost makes me want to pour some lighter fluid on my keyboard. . . . k

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Original audio tutorials by Craig Anderton.

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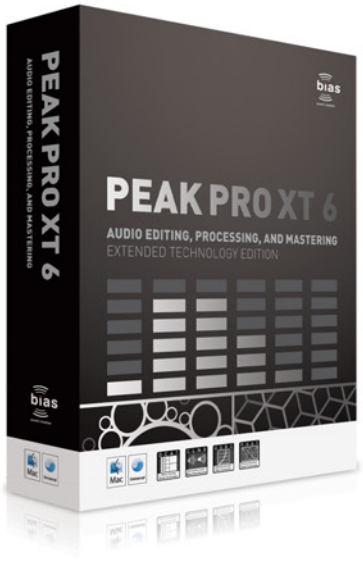

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EastWest / Quantum Leap

HOLLYWOOD STRINGS

by John Krogh

EastWest and Quantum Leap have a celebrated history of producing not only some of the finest sample libraries on the market, but ones that redefine what we can expect from sampled instruments. Their Symphonic Orchestra was the first of its kind to offer multiple mic perspectives, letting you mix close-miked and reverberant sounds.

The developers made no bones about the fact that the demands of SO rode the bleeding edge of technology, and mere mortals would have to wait for computers to catch up. Fortunately they've advanced considerably, so EW has upped the ante again with Hollywood Strings, which aims to capture *the* definitive film score string sound. While this collection is even more power-hungry than any other library to date, you can do quite a lot with these sounds and a single high-end computer.

Getting Started

Hollywood Strings runs inside of EastWest's own sample engine, called Play. The sample data and software installer come pre-loaded on a 500GB

SATA hard drive; the samples use 335GB, so you'll have room left for other instruments if you use the drive for streaming, as I did. You can copy the content to another drive and you're free to install it on as many drives as you like. Since a number of single instruments comprise thousands of samples each, all at 24-bit resolution, you'll need a lot of RAM in addition to a blazing-fast hard drive (EW recommends solid-state drives) for optimum performance. You're given two iLok licenses (dongles not included) to facilitate spreading the library across two machines, which is the best solution for composers who create full orchestral mock-ups. Additional licenses beyond two are $50 each.

Design Philosophy

Appropriately, the producers recorded in a legendary Hollywood facility: EastWest's own Studio 1, formerly Cello Studios, where decades of hits were recorded. Shawn Murphy did the sampling sessions—his film score engineering credits read like a list of blockbusters from the past 15 years. So yes, the sound quality is superb.

Five mic perspectives were recorded, but unlike Symphonic Orchestra, HS is a much drier, immediate-sounding library that takes to reverb quite well. Close-miked samples let you pull a section to the front of a mix, while other perspectives give you a broader sense of relative positions (*e.g.*, violins on the left, basses on the right). The idea is to use at least one convolution reverb to dial in the right blend of direct and reverberant sound. There are a number of very nice impulse responses (reverb samples) in Play's built-in reverb, which really brings these sounds to life, although the signal routing isn't as flexible as it could be. For example, there are no busses or send controls in Play, so for more complex routing, you'll need a third-party plug-in and your DAW's mixer.

In addition to sampling each of the five string sections (violins 1 and 2, viola, celli, and bass), smaller numbers of players from each section were sampled, making it possible to play chords without the sound becoming too thick. In a real orchestra, notes in a chord are divided among the players in each section (this is called *divisi*), but with virtual orchestras, the sound stacks up in an unnatural way. Hollywood Strings addresses this problem with its smaller section sizes, so you can create more convincing chordal passages. In practice, the *divisi* patches work well—I created a much more realistic sound using the smaller sections. Note, however, that there are no solo player patches in HS.

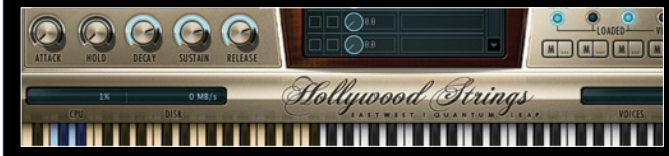
In Session

HS employs scripts, which process incoming MIDI data to produce desired effects and playing styles. These scripts run in the background and can be enabled from the Play interface. With the legato script, for example, playing connected lines with any of the sustain patches produces very convincing legato—check out the online audio with first violins playing a simple line with legato enabled. Other scripts include a repetition tool that avoids the dreaded "machine gun" effect, portamento for creating short glissandi between two notes, and a *con sordino* script that approximates adding a mute.

Specifications

PROS Expertly recorded and programmed. Extremely flexible and musical. Impressive range of articulations and playing styles. *Divisi* sections allow realistic chordal performances. Price includes two licenses.

CONS No printed manual. Some large legato patches require top-end computers, or performance may suffer.



CONCEPT Orchestral string library designed to reproduce the "Hollywood film score" sound.
FORMATS Mac or PC. AU, RTAS, VST, and standalone.
MINIMUM SYSTEM REQUIREMENTS *Mac:* OS 10.5 or later. *PC:* Windows XP SP2, Vista, or Windows 7. *Both:* Intel Core 2 Duo or AMD processor, 2.1GHz or faster, 4GB RAM, 335GB free hard drive storage space. Separate audio drive, preferably solid-state, highly recommended.

PRICE **$1,495 (no list/street difference)**
Gold Version: $795

soundsonline.com

The scripting is fantastic and helps cut down on the micro-editing that's typically necessary to achieve an expressive, believable performance from a virtual orchestra. Also, there are "real" legato patches with sampled intervals, and separate round-robin patches with alternate samples that cycle with each repetition, so you have the choice of audio- or MIDI-based realism. Nice.

This is a massive library with an exhaustive complement of articulations and playing techniques. As a result, some of the naming conventions can seem daunting at first, but the documentation (PDF only) clearly explains the organization of sounds, which is consistent from section to section.

Conclusions

Hollywood Strings is a no-holds-barred sample library that can indeed faithfully reproduce the "film score" string sound. The scripting is quite useful, and the range of articulations and playing styles make it tremendously flexible. Yes, it's also a behemoth that can bring even a powerful Mac or PC to its knees, but we've been here before. Also, by the time you read this, a lighter "Gold" version—with 16-bit samples, one mic placement, no *divisi*, and all articulations but no bow change legato—will be available for $795.

Ultimately, Hollywood Strings is one of the most musical and playable orchestral string libraries to date, and though it pushes the limits of current computing power, that's a small price to pay. k

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Video tutorials on EastWest's YouTube page.

Original audio examples of various articulations.

Audiobro

L.A. SCORING STRINGS

by John Krogh

Audiobro is a relative newcomer, but their first product, L.A. Scoring Strings, is an impressive, professional library that raises the bar in several key areas. Billed as "five libraries in one," LASS (for short) was recorded on a real film scoring stage, and provides a range of section sizes, letting you produce stunningly convincing unison and chordal passages. In this regard, LASS is the most *adaptable* string library I've ever worked with.

LASS is the brainchild of composer Andrew Keresztes, who, after years of frustration with the shortcomings of other libraries, set out to create his own that addressed the limitations that composers typically face when working with a virtual orchestra. So does it deliver? Read on.

Getting Started

LASS is formatted for Native Instruments' Kontakt sampler, version 3.5 or higher, and Kontakt Player is included for users who don't already own Kontakt. The content is on five DVDs, and weighs in at a mere 40GB when installed–a relatively small footprint. That's good news if you want to run LASS from its own solid-state drive, as these days you can pick up a small SSD under $200. Samples are provided in 24- and 16-bit format, letting you maximize your system's resources. Two authorizations are allowed, so you can spread the library across two computers. Additional authorizations can be arranged by contacting Audiobro.

Specifications

PROS Expertly programmed presets with clever scripting. Can produce a wide range of textures from small and intimate to epic and sweeping. Impulse responses included for use with third-party convolution reverbs.

CONS No "non-vibrato to vibrato" crossfade presets (Audiobro is reportedly releasing an update with these patches in the future).

CONCEPT Kontakt-based string library designed to emulate the "Hollywood film score" sound.
FORMATS Mac and PC. AU, RTAS, VST, and standalone.
MINIMUM SYSTEM REQUIREMENTS *Mac:* OS 10.4.x or later, G4 1.4GHz or Intel Core Duo 1.66GHz. *PC:* Windows XP or Vista. Pentium or Athlon 1.4GHz. Both: 1GB of RAM, 40GB free hard drive space.

PRICE **List: $1,399**
Approx. street: $1,099

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Sound Concepts

Audiobro hasn't disclosed exactly which scoring stage was used to record LASS, but the sonic signature is a clear, rich, and detailed sound. There's a hint of early reflections from the room, but otherwise this is a drier collection that requires a quality convolution reverb to achieve a polished sound.

A collection of 150 impulse responses (IRs) by noted developer Ernest Cholakis comprises separate early reflection and tail IRs, complete with a variety of tonal characteristics from clear to dark. You can mix and match to dial in exactly the sound you're after. In my tests, loading the supplied IRs into Audio Ease Altiverb sounded great.

Although the concept of sampling string sections of varying sizes isn't new, Audiobro takes it to a new level by sampling each section in full, plus three smaller sections, as well as solo "first chair" players—hence the "five libraries in one" tagline. Sections are organized into groups A, B, and C, where A and B each have a quarter of the full number of players, and C has half. Different players are featured in each smaller section, so when you layer these patches to build chordal, unison, or *divisi* parts, the sound is incredibly lifelike and expressive. You get the sense of a true section playing together versus the synthetic texture you sometimes hear with other libraries.

I did note some minor intonation issues with some of the smaller sections, but this wasn't a major distraction, and when layering multiple sections, the slight tuning offset actually created a more natural blended sound. Other developers have intentionally left similar tuning "warts" in their libraries for this exact reason.

Scripts

Several sophisticated scripts process incoming MIDI data to produce different articulations, and even rhythms. The Real Legato script, for example, triggers sampled intervals between two notes as you play, so you can easily perform true legato passages. Some patches include legato, portamento and glissandi intervals, with velocity determining which type of sample is triggered. This produced fantastic results ranging from slow, languid, romantic lines to fast runs.

Other scripts include the Automatic Rhythm Tool, or A.R.T., which triggers rhythm patterns with staccato and spiccato patches, giving you the kind of driving phrases typically heard in sci-fi, suspense, and action scenes. Keyswitching lets you trigger different patterns, and you can program your own. There's even an Auto Arranger (see "*Divisi* Explained" below), which intelligently splits chords across multiple patches loaded on the same MIDI channel, letting you create *divisi* parts on the fly. All of this is, in a word, brilliant.

Conclusions

L.A. Scoring Strings is an impressive library, both sonically and technologically, and sets a new standard with regard to the degree of flexibility and ability to create a vast array of articulations and playing styles with minimal effort. In fact, as I was working with the library, I was struck by how easy it was to realize and execute musical ideas. This is due largely to the built-in scripts, which makes LASS respond more like a true musical instrument, not just a collection of sounds that need to be chiseled into a believable performance via tedious MIDI editing. k

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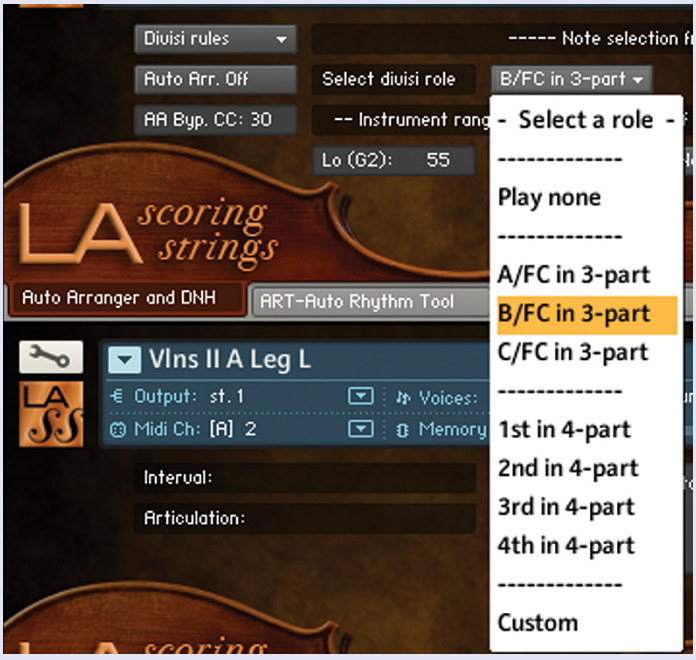
Online examples of LASS' legato, A.R.T., and Arranger scripts.

Excellent LASS video tutorials.



Divisi Explained

Divisi (Italian for "divided") is written in the score when notes in a chord are divided among players in a section. For example, 12 violinists might play a two-part harmony with six players for the upper voice and six for the lower. With virtual orchestras, hitting a key for the second voice would normally double the number of virtual players, resulting in a too-thick, obviously sampled sound. Now, developers such as Audiobro, Audio Impressions, and EastWest (see page 64) are offering *divisi* sections, and tricks such as the Auto Arranger script shown at left, to translate your keyboard chording into proper *divisi* playing.

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Korg MONOTRON

by Francis Preve

KEYBOARD KEYBUY AWARD

Of the big three synth makers, Korg seems to be the most fond of taking chances and delivering exotic products that surprise and delight. Their Kaoss Pad and Kaossilator virtually created a new category of realtime effects for DJs and producers, while their Nano series showed that tiny MIDI controllers could be serious musical tools. When they announced a true analog synth that fits in your pocket, with a real MS-20 filter that accepts external signals, for well under $100, we just about fainted.

The first thing that grabbed us about the Monotron is how freakin' *tiny* it is—not much bigger than a large smartphone. Instead of keys, there's a ribbon with an 18-note keyboard printed on it. Think "21st century Stylophone" and you've got the idea. Playing the keyboard with your fingers is possible, but since the entire surface is a ribbon, this can be a trifle awkward for the thicker-fingered. The best bet for accuracy is to use a stylus (got an old Palm Pilot or Treo handy?), which isn't included with the Monotron.

The bottom line here is obviously the sound, and the Monotron does not disappoint. Its voice architecture is simplicity itself: a sawtooth oscillator, a resonant lowpass filter, and a straight-up gate VCA envelope. An LFO can be routed to either pitch or filter cutoff. Interestingly, the LFO wave is a sawtooth, not a standard-issue triangle or sine, which leads to some cool results that help define the Monotron's sonic character. For example, when applied to pitch, the LFO delivers vintage Steve Miller swoops that will have you reaching for your dad's vinyl collection. On the other hand, when applied to filter cutoff, especially with a dollop of juicy resonance, the results veer into Roland TB-303 territory. This should keep electronica fans happy for days. That alone would be cool enough, but the LFO rate also extends well into the audio frequency range, allowing for FM insanity that you'd never expect from a package this size.

The pitch knob has a massive range, from subsonic sawtooth clicks all the way up to cochlea-shredding highs. Throttle down the filter cutoff and lower the pitch and you can whip up wobbly tech and electro bass lines. Raise the cutoff all the way and increase the pitch to the upper octaves, and you've got that "crazy bees" sound that keeps Benny Benassi fans coming back for more.

Then there's the external input jack. This is a 1/8" affair, so you may need an adapter. The fact that Korg managed to cram real analog outboard filtering into a box this size and price is nothing short of astonishing. Just to be ironic, I ran my vintage Casio VL-Tone into the Monotron and had a grand old time turning the two into my very own nano-modular coffee table synth.

Again, Korg delivers a must-have gadget with true musical usefulness—at a price that makes it the perfect stocking stuffer, not to mention a Key Buy.

Specifications

PROS Analog. Same filter as vintage Korg MS-10 and MS-20 synths. Audio input for processing other instruments and semi-modular applications. Audio-range modulation of filter and oscillator.

CONS Thicker fingers may have a hard time playing the ribbon keyboard accurately.

PRICE **List:** $90.00
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korg.com/monotron

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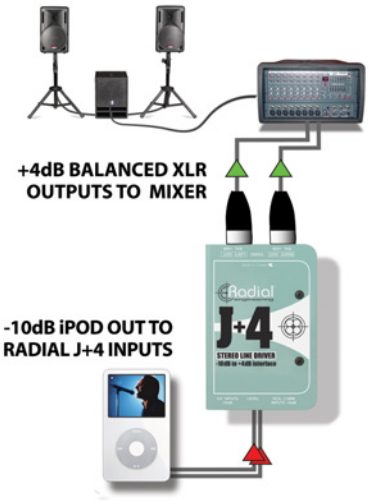

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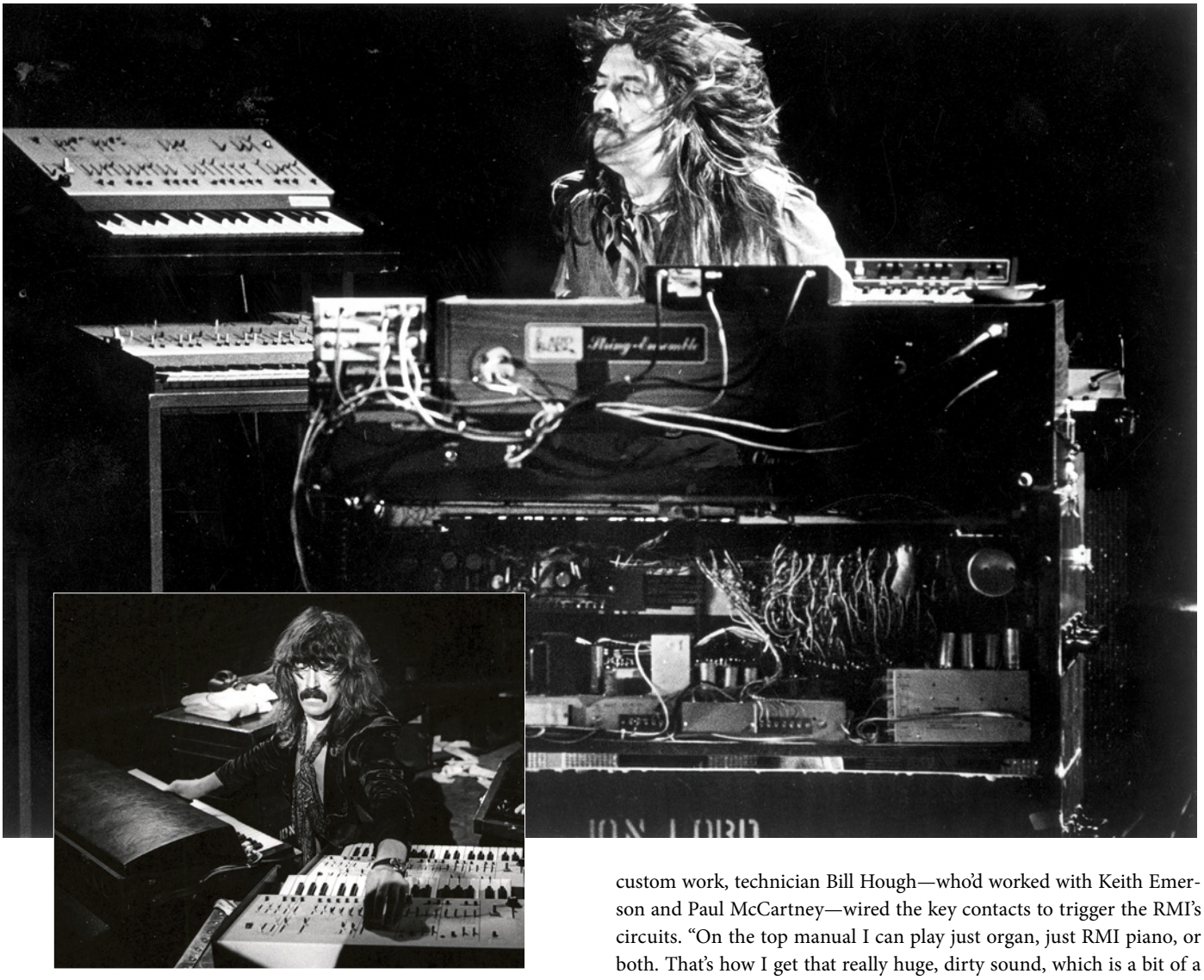
JON LORD and DON AIREY

by Stephen Fortner

Before Keith Emerson and Rick Wakeman tattooed the image of the rock keys virtuoso into our retinas, Jon Lord's overdriven Hammond in Deep Purple set the tone for what keyboards in a heavy metal band were supposed to be. Two bands spun off from Deep Purple in the early '80s: Lord would play in the first incarnation of Whitesnake, and keyboardist Don Airey would join Purple guitarist Ritchie Blackmore in Rainbow. Airey would later record and tour with Ozzy Osbourne, playing one of the most memorable synth intros in rock: "Mr. Crowley." Here's a look back at both their rigs from the *Keyboard* vaults.

JON LORD



At left in the top photo are two first-generation ARP Odysseys—with a knob for pitch bend where later, the better-known pressure-sensitive pitch pads would sit. Lord endorsed ARP at the time, and you can see a peek of the ARP Pro-Soloist sitting behind him atop his Rhodes. In front is a triple stack: an ARP String Ensemble atop a Hohner Clavinet D6 atop Jon's Hammond C-3 organ.

"I've had a lot of modifications done to it," he said of the C-3 to *Keyboard*'s Bob Doerschuk in March, 1983. "One of the most startling is that there's an RMI electric piano built in." In a brilliant example of pre-MIDI custom work, technician Bill Hough—who'd worked with Keith Emerson and Paul McCartney—wired the key contacts to trigger the RMI's circuits. "On the top manual I can play just organ, just RMI piano, or both. That's how I get that really huge, dirty sound, which is a bit of a trademark for me," explained Lord. "The bottom two octaves of the lower manual can trigger a synthesizer, so I can have my Minimoog on the floor. . . . I just click a switch and there it is."

Famously important to Lord's sound were his high-powered Leslies. "I've got Crown amps running them," he told Doerschuk, "but the Leslies are completely gutted, with 15" Gauss speakers and heavy-duty JBL horns. Each cabinet can take about 300 watts before they start to blow up, and I've got four of them. It's a huge amount of power, but I've still got that lovely Leslie effect."

DON AIREY

Airey with his 1983 Ozzy setup. *Left (top to bottom)*: ARP Odyssey, Oberheim OB-Xa, and Yamaha CP70 electric grand piano. *Right*: Minimoog and Roland VP-330 Vocoder Plus (not visible) atop Yamaha CS-80.

Airey's Rainbow rig in 1981, clockwise from left rear: Hohner Clavinet D6 atop Vako Orchestron, Minimoog (left) and ARP Odyssey (right) atop chopped Hammond B-3, and another Minimoog above a Yamaha CS-80. Beneath the B-3 is a Moog Taurus I bass pedal synth.

Airey on CS-80's Strings

Out of all his synths, Airey had the most to say about the Yamaha CS-80 in our July 1982 interview by Russ Summers and Dominic Milano. "The CS-80 does a fantastic French horn sound," Airey noted. "On the brass presets, you just set the resonance right, give it a bit of reverb, and you've got a French horn. And the bass end on the CS-80 is the best on any synth I've ever played." Also, "the CS-80 has got the best string sound I've ever gotten on a keyboard." When asked what attracted him to the CS-80, his answer illustrates how much our expectations of gear have changed over the years, as the 200-pound beast's oscillators were notoriously temperature-finicky. "It's very road-worthy," he said.

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